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COVER: The introduction of Seven of Nine turned *Star Trek: Voyager* around. Turn to page 20 to discover what else the series' creators have in store for us. Art by John Monteleone.

ABOVE: John Harris delivers visions of monumental space structures. Visit his Gallery on page 68.

SCIENCE FICTION AGE

F I C T I O N

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By Brian Stableford

To discover the true meaning of art, sometimes it doesn't help at all to ask the artist—you have to ask the artwork itself.

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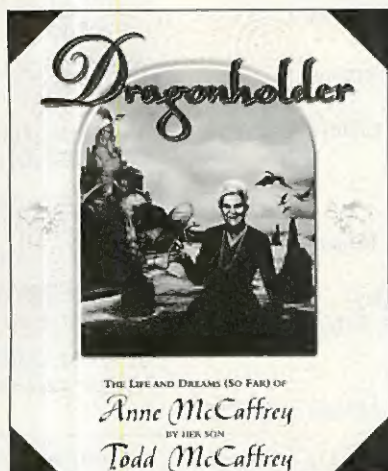
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After a few hundred million years, perhaps we'll begin to discover what it means to be human.

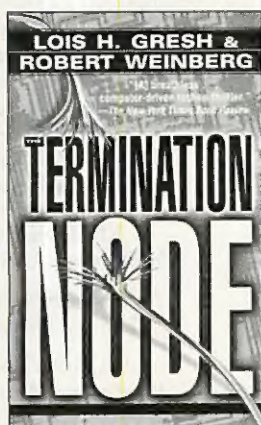


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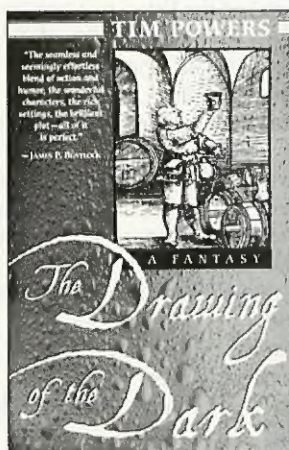
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Looking back at last year we wonder whether there'll be a next.

AS I TYPE THESE WORDS, I'M DRAWING close to the time when writing '99' instead of '00' on my checks will be a mistake, which means that it's time for you to look back to a previous year's future, and tell me what you thought were the best Novellas, Novelettes, and Short Stories that we published in *Science Fiction Age*.

As usual, I've separated out the stories on this page along the same criteria as used by the voters for the Hugo and Nebula Awards. As a reminder, Short Stories are those tales no greater than 7,500 words, Novelettes are pieces of fiction over 7,500 words but no greater than 17,500 words, and Novellas are those stories greater than 17,500 words.

To help choose the winners, simply write the names of your two favorites in each category on a postcard and send it to me at Science Fiction Age, Readers' Poll, 11305 Sunset Hills Road, Reston VA 20190. Those who are more technologically inclined can instead e-mail your choices to me at the address of scottedelman@erols.com. Results will be announced in our May 2000 issue.

And by the way, did I think, back when I held our first issue, dated November 1992, in my hands, that you and I would be around together for an issue, such as this one, with the date 2000 on the cover? Yes, I had hopes, but at the time I would have perhaps classified them as Fantasy rather than Science Fiction.

NOVELLAS

- "Apothecary Blue" by Robert Reed (November)
- "Chasing Sacrifice" by Mark W. Tiedemann (January)
- "Engines of Creation" by Jack Williamson (September)
- "Once Upon a Matter Crushed" by Wil McCarthy (July)

NOVELETES

- "Dark Calvary" by Eric Brown (January)
- "Green Acres" by Allen M. Steele (March)
- "Install Batteries According to Diagram, Observing Polarity" by Adam Corbin Fusco (May)
- "Mars is No Place for Children" by Mary A. Turzillo (May)
- "Phallicide" by Charles Sheffield (September)
- "Plain Female Seeks Nice Guy" by William R. Eakin (November)
- "Saddlepoint: The Face of Kintu" by Stephen Baxter (May)

- "The Square Root of Pythagorus" by Rudy Rucker and Paul Di Filippo (November)
- "The Sweet Taste of Regret" by Karen Haber (July)
- "Unequal Laws" by Stephen Dedman (March)
- "With McAndrew, Out of Focus" by Charles Sheffield (March)

SHORT STORIES

- "Bitter Pills" by Bruce Holland Rogers (November)
- "The Challenger" by Robert Reed (May)
- "Defrosting the Captain" by Daniel H. Jeffers (March)
- "Faith" by Don Webb (July)
- "He's Only Human" by Lawrence Watt-Evans (September)
- "The Identity Factory" by Andrew Weiner (January)
- "Marla and the Eeler" by Mary Turzillo (January)
- "The Poetry of Science Fiction" by Bruce Boston (March)
- "Primordial Chili" by Tom Gerencer (November)
- "Rexitos" by Ernest Hogan (January)
- "Shiva" by Barry N. Malzberg (May)
- "Sole Mortal Thing of Worth Immortal" by Robin Wilson (July)
- "The Star Dreamers" by Bruce Boston (January)
- "Texture of Other Ways" by Mark W. Tiedemann (September)
- "Twelve Traditions" by Lyda Morehouse (May)
- "We From Afar" by Eliot Fintushel (July)
- "What It Is" by Robert Reed (September)

It's a good thing I don't have to vote—I doubt that I could make up my mind. I'm frozen like a parent being asked to decide which is his favorite child. It's an impossible question to answer. So I have to count on you.

And while you're voting, let me remind you to keep your letters of comment coming. Some months it seems we're swamped with correspondence, as can be seen in this issue's letter column, where my editorial on the relationship between fiction and violence stirred many of you to speak out. Yet other months the mailbag is empty. Please let us know how we're doing whenever you wish, and not just during this once a year roundup. I depend on you for the feedback to make us better for the Science Fictional year of 2001!

Scott Edelman

SCIENCE FICTION AGE

VOLUME 8

NUMBER 2

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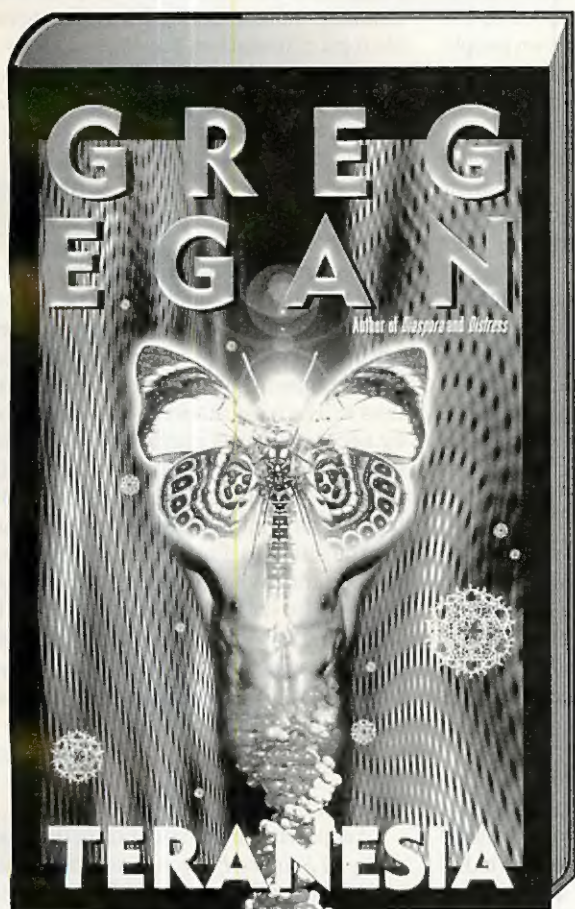
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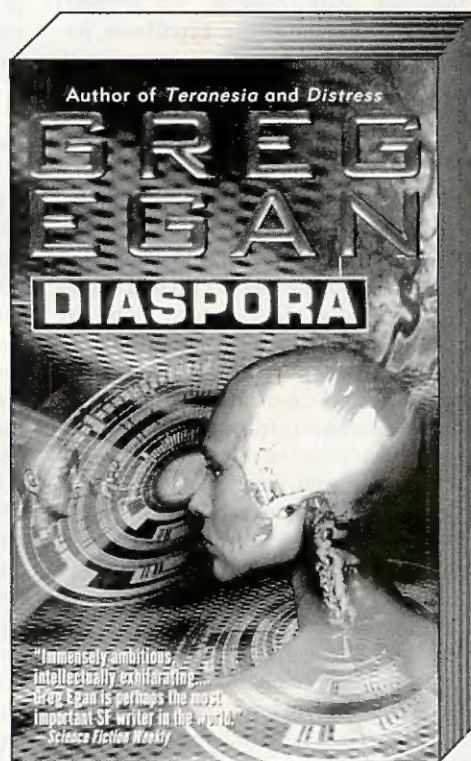
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Dear Scott Edelman:

The Royo illustration on the cover of the latest *Science Fiction Age* is noted in the Table of Contents as "The artist Royo depicts a decidedly different alien invasion."

I recognized the lady as the same illustration on a paperback copy of Bruce Sterling's *Islands in the Net* printed as an Ace Book in March 1989. Has Laura become an alien?

Ross B. McMullen

No, she hasn't, but since a painting that nice deserved to be seen larger than on a paperback book cover, and since context is everything, we took a bit of poetic license in describing the ship behind her. I hope you won't have that license revoked; they're getting harder to come by every year.

Dear Mr. Edelman:

I totally agree with you regarding your stand on censorship: It probably is one of the most insidious examples of totalitarian thinking. Blaming printed or transmitted media as the spark for criminal behavior is nothing short of an ad hoc hypothesis forwarded by those who fear ideas.

However, your "reasons" for criminal behavior are also an ad hoc hypothesis, forwarded by social pseudoscientists, with absolutely no empirical proof of any kind. Poverty, racism, and/or mental illness are not by themselves root causes for crime, only justifications. Mental illness can be found as the main reason for some criminal behavior, but that puts the "crimes" more in the realm of unfortunate accidents, like car crashes. Instead, the rest of criminal behaviors are totally chosen acts, done by unscrupulous persons.

Think for a moment about poverty and racism: Will a poor person always commit a crime? Does a racist always commit crimes? Maybe the problem is more complex, you might say. Yes, well, maybe not.

The thing is that many poverty-stricken individuals are decent folk. The same goes, interestingly enough, for racists (I don't mean hate-mongers, those guys scare me!). The plain truth is that a rich person can be capable of breaking the law in disgusting ways as well as a poor person or a racist can. Is just a matter of up bringing and values.

Many times, LA radio-speaker and philosopher Dennis Prager said that "bad people commit crimes." If a person is not a good person, it won't matter whether he's or she's rich or poor, black or white, integrist or racist. How do we define "bad"? Somebody who simply won't follow the basic

human rules of social behavior: You will do no harm to others. Remember, some of the worst mass murderers of all time were not poor people, they were social engineers (Mao, Stalin, Lenin, Pol Pot, Idi Amin Dada, Hitler, etc.). Even if they had started life as poor children, many poor children do not grow up to kill millions of their own people. These persons suspended all their ethical and moral limitations for their own benefit. There's no doubt these were bad people, Mr. Edelman. There's not much difference between a Pol Pot and a carjacker, only in the degree of suffering they inflict on others.

People commit crimes because they want to, and because we let them.

As a skeptic, and an SF fan, my money goes for empirical science, and the scientific method, not the wild speculations of social "science" charlatans. Biology might one day explain the root physical causes for bad behavior. Until then, the other explanations, be it creepy comic books or poverty as causes for criminal behavior, are nothing more than ad hoc scapegoats.

By the way, your magazine is one of the best! Keep up the great work! I would like to see more *Hard Science Science Fiction*. For me, ever since reading Jules Verne to Larry Niven, is the only SF worth reading.

Francisco Torres

Dear Mr. Edelman:

Thank you for the thought-provoking Editorial in the September 1999 issue of *Science Fiction Age*. I agree that it is wrong to blame the arts for crimes like the shootings in Littleton, Colorado. However, I do not agree that what causes the arts to be blamed is "people seeking easy solutions." Rather, I think the cause is the philosophical and theological ground that underlies the view of human nature—and so the view of human behavior—that most people hold to today.

I am referring to both the Enlightenment idea that human beings are morally good by nature, and the Postmodern idea that human beings are morally neutral by nature. Both ideas see criminal behavior as being caused by something outside the nature of human beings—either outside influences such as poverty and racism (as you suggested) or, to carry the view further (to its inferentially logical extension in popular thinking), outside influences such as books, games, movies, and television. The advantage of these ideas is in the way they support our practice of denial: "It is not me, us, human beings that cause the evil that is found in the world (despite the overwhelming evidence

of history to the contrary)—it is instead this, that, or the other thing."

This incredible form of denial is what prompted many reporters who covered the shootings in Littleton to portray the killers as being "victims" too (of society or the entertainment industries.) And it is this incredible form of denial that prevents us, as a society, from dealing effectively with such crimes—from dealing effectively with people (all of us) who are, by nature, lawbreakers (to one degree or another).

Tom Hering

Dear Scott:

I have just finished reading the Science column in the November 1999 issue. I found it to be the most riveting in my recent memory. I was particularly interested in the ideas on government. While I agree that the frontiers will be more autocratic and militaristic by necessity, I was puzzled by their failure to mention Virtual Democracy. Administrators and executives will always be needed, but the rise in information technology makes the transition to a more direct form of representation a tempting change. Among other things, this will reduce the power of the lobby that is so much hated in Washington today. I can see this happening in the next hundred years although it will require a change in the Constitution in the USA.

Anne Guglik

Dear Mr. Edelman:

I'd appreciate more attention to the typography of *Science Fiction Age*. I continue to be baffled by the continued use of illegible text. For example, in the November 1999 issue: page 12, black text on a dark purple background; page 31: white text on a black background; page 53: white text on light orange and yellow backgrounds.

Graphics should work with, not against the text—and should never detract from the text. The above lack of consideration of details, coupled with the glossy paper and small type of most of the text, make your magazine difficult to read, at best.

If I can't read it, I can't enjoy it. And if I can't enjoy it, I won't continue to subscribe.

Steve Bellin

We'll try to do better in the—ahem! That is, we'll try to do better in the future.

Readers—please let us know how we're doing at: Letters to the Editor, Science Fiction Age, 11305 Sunset Hills Road, Reston VA 20190. For E-mail, use scottedelman@erols.com.

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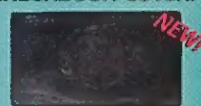
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BOOKS

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When you're *Forever Free*, you have plenty of *Time* to attend *All Tomorrow's Parties*.



In the Joe Haldeman's *Forever Free*, the *Forever War* is followed by a glimpse of hope. Art by Bruce Jensen.

IF WILLIAM GIBSON'S FIRST BOOK HAD BEEN *MONA Lisa Overdrive* (1988), we'd probably be mentioning him today only in the same breath as W.T. Quick. Oh, it wasn't that the concluding volume of the trilogy that began with *Neuromancer* a mere four years earlier was written poorly or displayed a paucity of ideas. It was simply that this exigent yet exiguous wrapping-up was undeniably saturated with the weariness, ennui, and jaundice implicit in the opening book, yet heretofore hidden by novelty, by Gibson's flash and filigree. This book made plain the fact that standard-issue cyberpunk, fully born so short a time ago, had already exfoliated, bloomed, and begun to rot. Over *Mona Lisa Overdrive* reign images of winter, betrayal, decay, and dead ends, despite the strapped-on engines providing a simulated outward drive. At the conclusion of the book, it became impossible really to imagine any further development of

the whole Gibsonian *weltanschauung* beyond theme park or franchise limits. Definitely time for a reboot.

The Difference Engine (1990), coauthored with Bruce Sterling, seems now to have been a necessary final run of all the old code. By plunging back to the roots of the Information Age and following them forward along an alternate time-track, Gibson seems to have enabled himself to rethink exactly what our own probable future might bring, and how best to convey that vision. Additionally, the darkness of *Engine* seems to have exhausted Gibson's own taste for unrelieved blackness, the noir attitude borrowed from such first-generation masters as Chandler, Hammett, Thompson, and Cain.

In what can be retrospectively seen as a determined and calculated artistic remolding, a brave act of reimagining his own literary destiny, Gibson launched himself on what amounts practically to a new career with the publication of *Virtual Light* in 1993. With the addition of *Idoru* (1996) and now with *All Tomorrow's Parties* (Putnam, hardcover, \$24.95, 288 pages), we currently have in hand a second trilogy from Gibson that can fruitfully be compared with the first.

Let me sum up the rest of the review right off: Gibson has never been better. Comparing old Gibson to new is like plonking down a tangerine-colored i-Mac next to a drab first-generation Macintosh. *Virtual Light* introduced us to a cast of engagingly believable characters and their startling yet utterly credible very-near-future milieu, limned deftly on all scales. Chevette Washington, tuff-girl bike messenger, and Berry Rydell, easy-going rental cop prone to spectacular screwups, uncover dire machinations involving the city of San Francisco. With the help of a Japanese anthropologist named Shinya Yamazaki, they thwart the bad guys led by billionaire Cody Harwood, and ride off to a seemingly happy future.

Yamazaki is our link to *Idoru*. Back in Tokyo, he has recruited an acquaintance of Rydell's, a weirdly talented data analyst named Colin Laney, to assist a rock star named Rez who happens to want to "marry" an artificial intelligence called Rei Toei, who takes the alluring holographic shape of a female pop star. Sharing the narrative spotlight is teenybopper Chia Pet McKenzie, one of Rez's biggest fans, who has traveled to Tokyo to get the latest scoop on her hero, but who falls afoul of some nanotech smugglers. Eventually, Laney's talents bring off the marriage between the fleshly rock star and the luminous one, and facilitate Chia's rescue.

In a move similar to what Tim Powers pulled off in his last three books, Gibson uses *All Tomorrow's Parties* (its Velvet Underground-inspired title faithfully conveying some of its rock-'n'-roll energy) to fuse the separate casts and themes of *Virtual Light* and *Idoru*. (Only the naively charming and spunky Chia is missing from the new book.)

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He reveals that what we perceived as two separate adventures pivot around a common center, and that that center is a kind of singularity into which human culture is poised to fall.

Colin Laney is now by choice and necessity a down-and-out bum living in the Tokyo subways. But his talents—an ability to see and interpret the critical “nodal points” of the information Web accessible through the common virtual-reality glasses introduced in the first book—are sharper than ever. And they reveal that a kind of “year of the jackpot” is imminent, when humanity will be transformed according to the dictates of the egomaniacal Cody Harwood. Only Laney, Rydell, Chevette, and Rei Toei—along with a new character, a Sturgeonesque *idiot savant* orphan named Silencio—stand in the path of this dastardly “combination of Bill Gates and Woody Allen,” who also recalls a Dickian Palmer Eldritch. To complicate matters, our heroes are being stalked by various hired killers, including a complex Taoist assassin named Konrad.

Set mainly in San Francisco, especially around the bricoleur-inhabited bridge to Oakland that played such a colorful part in *Virtual Light*, this novel extends and ramifies Gibson's spot-on speculations about where our crazy globe is heading. From big events such as the partitioning of California to the smallest detail such as the bulletproof bibs worn by convenience-store clerks, Gibson extrapolates cleverly and convincingly. He can be as engineerishly precise as Bruce Sterling or as satirically sharp as Thomas Pynchon in his *Vineland* (1990) mode. From its savage media excesses to its cynical proletarian apathy, the Clutian “real year” of this Trilogy is as close to the present as Science Fiction ever gets.

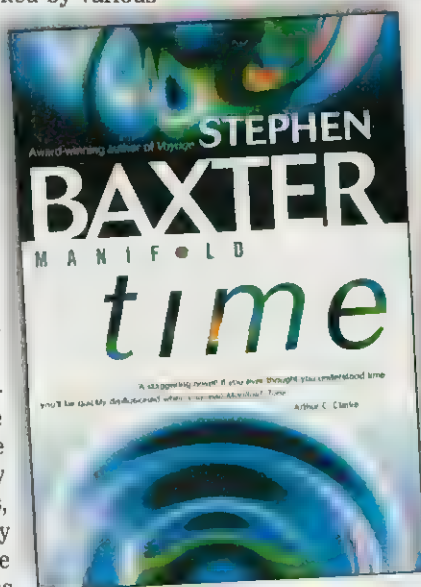
What strikes me most about the new Gibson, though, is his altered style and outlook. His prose has gotten lighter, both in the sense of disentangling and of brightening. Every sentence in the short, swift chapters is honed razor-sharp. And if his old writerly models were the *Black Mask* crowd, his new ones are folks like Donald Westlake and Barry Gifford, writers who revel in offbeat criminal humor without losing sight of some very real darkness. Gibson nowadays treats his characters less as obsession-dominated tokens whose moves are predetermined by circumstances and more as quirky individuals who can “go lateral.” There are laugh-out-loud passages in this whole trilogy, mostly involving the Southern-bred Rydell. The whole running riff in the new book about aspiring country-western singer Buell Creedmore would never have found a place in the first trilogy.

Despite a satisfying conclusion whose highlight involves thousands of naked copies of a certain woman surreally stepping from a legion of convenience-store nano-dispensers, Gibson seems to leave the door open for another of these wild tomorrow parties, which will go straight to the top of my social calendar.

Paul Di Filippo

Manifold: Time, by Stephen Baxter. Del Rey, hardcover, 440 pages, \$24.00.

Stephen Baxter's *Time* is presented as the first book in a set of three, with the overall title *Manifold*. Baxter proposes to consider some heavyweight questions: the nature of time, the purpose of life, that sort of thing. Since none of us does—or, at this point, *can*—know the answers, the only thing left to consider is how well the questions are asked, and how interesting and fun are the speculations.



Baxter's framework for the first book is Reid Malenfant. I use the word advisedly, since Malenfant isn't so much a character as the focal point, a structure on which the entire book is built. In simple terms, he's a frustrated would-be astronaut who sublimates that desire by building a vast business empire in space-related ventures. At first I thought of him in terms of a Heinleinian “competent man” who isn't afraid to act and get things done, but that soon proved to be an overly simplistic view. Suffice it to say that, when he begins a covert operation to establish asteroid mining, motivations and views of reality soon come to resemble those of Phillip K. Dick as much as a Heinlein or Clarke.

It's easy enough to explain my confusion; the book started typically enough: The Earth in the early part of the 21st century is pretty much like today, only worse. We haven't returned to space in any meaningful way; NASA has sunk deeper into bureaucracy and views of reality soon come to resemble those of Phillip K. Dick as much as a Heinlein or Clarke.

gration fears which feed lots of nasty things. Typical jaundiced view of mankind and its immediate future, hints of what may be needed, something perhaps simpler and more logical and less messy and less, well, democratic. Let the people make decisions who know how.

It does seem that Reid Malenfant knows how. When red tape interferes with his plans for the profits—and adventure—that asteroid mining could provide, he simply builds his BDB (Big Dumb Booster) on the sly, using a phony waste incineration project as a cover. Frustrated old engineers and NASA refugees, as well as bright young scientists and technicians who want to be part of something truly grand and history-making, are easy to recruit.

Looks like we're heading for gosh-wow country, and in that sense the book doesn't deceive one bit. We're just not going there the

way we think we are. See, the world isn't just getting worse. It's getting *strange*. A shadowy group led by a slightly mad mathematician named Cornelius Taine is predicting the End of the World in less than three hundred years, and has the theoretical foundation to back its claims. Supersmart children are appearing in the new generation, and I don't mean very bright, promising children. I mean children who can deduce the existence of photons from First Principles by the age of five. All this weirdness is making people behave even worse than usual. Interesting times are coming.

That turns out to be true, literally. Just as his Big Dumb Booster project is nearing completion, Reid Malenfant hooks up with Cornelius Taine for what promises to be an even wilder ride. Not only does Taine believe that mankind is doomed, he believes beings from the future are trying to contact them in the here and now to warn them. Yes, I know. That's a paradox and you've already spotted it. Doesn't matter. There are wheels within wheels here and it's not clear at this point who's turning the crank. Taine convinces Malenfant, and next thing we know, he pulls his chief scientist off the BDB project and starts him on another: Trying to build what amounts to a radio receiver to the future. Good thing, too. Seems the future is trying to contact them.

Factor in a pregnant intelligent squid, more paradoxes, closed causal loops, several marvelously handled infodumps/lectures on temporality and quantum physics, and what looks like a gateway to the End of Time, and you can see the technical gosh-wow factor isn't lacking, even as Baxter moves closer to Phil Dick country. Technical hurdles are overcome, but are there too many impossible

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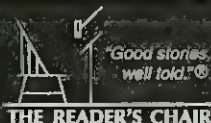
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things neatly hogtied and frustrated? Are destinies and events being guided by, perhaps, Someone Else?

Through it all Reid Malenfant is both user and used, fully in charge of his destiny and shaping that of others, and yet there are those pesky wheels within wheels again. People share Malenfant's vision or get overrun by it, for a purpose that isn't as clear-cut as even Malenfant would like to believe. Then there's the final launch of the BDB (called *Nautilus*), which does exactly what it's supposed to do and *still* runs afoul of the Law of Unintended Results. To say more would spoil the fun. To say less might imply there wasn't fun to be had.

There are some annoyances, too. Much of the novel is set in the United States and Baxter isn't quite in his element here. Sometimes it shows. Then there are the occasional political asides that refer more to current politics than the future. You either agree or disagree with them, but in either case they interrupt the narrative more than they contribute to it.

Fortunately most of this heavy-handedness becomes less pronounced as the book progresses, but better if it wasn't there at all.

Quibbles aside, Baxter's hunting big game here, and the hard fact is we'll have to wait until the next two books in the series are done. Only then can we know if he's bagged the beast, or at least brought back a good picture. He's taken a cosmically grand and interesting first step, and it certainly makes one wonder where else there may be to go. Somehow I have little doubt that Baxter's got it worked out, and I admit to being curious about what might come next. Until then, you could do worse than taking this part of the trip now. After all, the future is a chancy thing.

Richard Parks

Forever Free, by Joe Haldeman, *Ace Science Fiction*, 288 pp., December 1999, \$21.95 (\$30.99 Canada).

Joe Haldeman's *The Forever War* was one of the true classics of Science Fiction. The

BOOKS TO WATCH FOR

When Worlds Collide, by Philip Wylie and Edwin Balmer (Bison Books). Before Hollywood discovered the Earth-killing meteor, this classic SF novel showed how to end the world with style. John Varley provides a heart-felt introduction.

Resurrection, Inc., by Kevin J. Anderson (Overlook Connection Press). This 10th anniversary edition of Anderson's first novel is signed, limited to 1,000 copies and contains the author's preferred edition. Cover by Bob Eggleton.

Chemistry and Science Fiction, edited by Jack H. Stocker (American Chemical Society). A look at the chemical science behind Science Fiction in films, novels, pulp magazine covers, and more. Includes contributions from Willis and Asimov.

Armageddons, edited by Jack Dann and Gardner Dozois (Ace). Planet Earth is in trouble, thanks to a dozen tales from Frederik Pohl, Gregory Benford, Nancy Kress, Howard Waldrop, Geoffrey A. Landis and others.

Bicentennial Man, by Isaac Asimov (Bantam Spectra). Just in time for the Disney film of the same name comes a reissue of this classic collection. Before Robin Williams imprints on your mind, read the original to see how the Grandmaster did it.

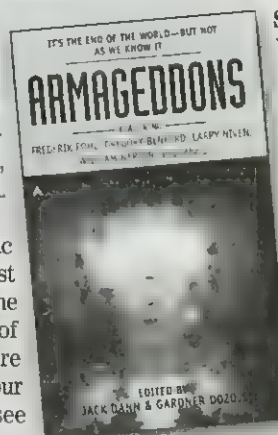
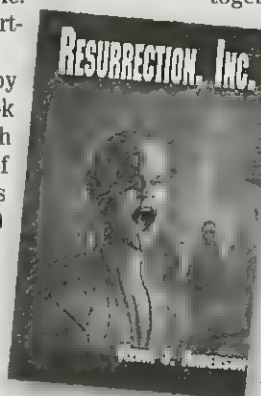
Bangs and Whimpers, edited by James Frenkel (Roxbury Park). Everyone seems to be in the mood for ending the world this issue, including Frenkel, who brings together killer stories from Clarke, Silverberg, Heinlein, Dick and Asimov.

From These Ashes: The Short Science Fiction of Fredric Brown, by Fredric Brown (NESFA Press). Of all the practitioners of the short-short SF tale, Brown did it best. NESFA is to be commended for bringing him back in print.

The Martian Race, by Gregory Benford (Warner Aspect). After a deadly NASA disaster, billionaire John Axelrod jumpstarts the first private mission to the Red Planet by offering a \$30 billion prize, and the interplanetary race is on.

Colossus: The Collected Science Fiction of Donald Wandrei, edited by Philip J. Rahman and Dennis Weiler (Fedogan & Bremer). This classic SF yarnspinner has been nearly forgotten. Rediscover him today.

Apocalypse Movies: End of the World Cinema, by Kim Newman (St. Martin's Griffin). Our insatiable obsession with Doomsday is analyzed with a look at B-movies and blockbusters alike, from *Dr. Strangelove* to *Armageddon*.

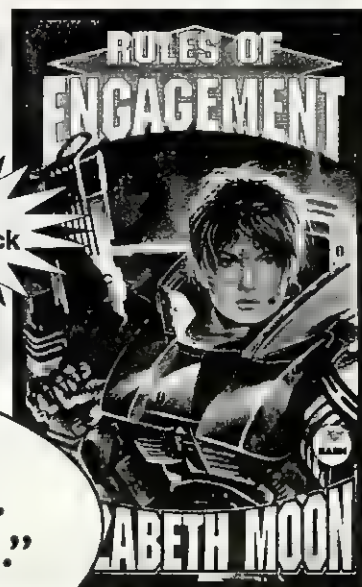




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1974 novel chronicled a gritty future war against the alien Taurans fought over a thousand years by soldiers kept young by the relativistic time-dilation effects of near-light-speed travel.

It was a metaphoric portrayal of the author's own experiences in the Vietnam War, and conveyed the horrors of war more graphically than any other SF novel.

William Mandella and Marygay Potter were two of the rare soldiers who survived nearly the entire war. Each time they returned to Earth, they found themselves more and more socially estranged, anachronisms with no choice but to re-enlist. At the end of the novel's final bloody battle, Mandella finds that the war has been over for two hundred years. Humanity has changed itself into group-minded telepathic clones of a single optimal genome, much like the Taurans. Most of the surviving soldiers choose not to join the human gestalt, and retain their individuality, settling on a harsh-climated planet that they name Middle Finger.

For the past 25 years, Haldeman fans have awaited a sequel to *The Forever War*, continuing the story of Mandella, Potter, and the others on Middle Finger. Haldeman's 1997 novel, *Forever Peace*, proved to be a thematic sequel only, telling the similarly powerful story of a 21st-century war between First World remotely controlled robots and Third World human soldiers.

Now Haldeman has finally written the true sequel.

Forever Free begins 20 years after the end of *The Forever War*, with William Mandella, Marygay Potter, and the other veterans still homesteading on Middle Finger, isolated anachronisms in a time controlled by a coalition of Man and Taurans. William and Marygay live with their two children in a small town, ice fishing and teaching.

Living under the watchful eyes of the representatives of Man and the Taurans who control their planet as well as Earth, the vets have their own secret social group that meets occasionally to discuss their tenuous position, and their value as the only diverse gene pool left for humanity. At one meeting, Mandella makes a "modest proposal" to hijack the only remaining starship left over from the war still in orbit around Middle Finger, and take 150 selected people out 20,000 light years and back, a trip of just 10 years for the crew, but 40,000 years for Middle Finger and Earth.

The conspiracy is uncovered immediately. Despite a recommendation by the Man and Tauran representatives in charge of Middle Finger to approve the humans' proposal to take the unused starship, Earth's government disapproves. Mandella's group finally does hijack the starship, with the tacit assistance of local officials and a fighting suit stolen from a museum, and set off on their long journey with one Man and one Tauran also on board.

Mere months into their voyage, however, strange things begin to happen, things that

cannot be explained by even the advanced knowledge of quantum physics shared by the humans and Taurans. They must abandon the disabled ship and use the four smaller ships to escape back to Middle Finger. What they discover on their return is even more inexplicable. The fate of all humanity and Taurans hang in the balance while Mandella and friends seek to solve the mystery of the impossible situation they find on Middle Finger, and then on Earth itself.

I'm being vague here because much of the pleasure in reading Haldeman's compelling narrative could be lost if the reader knows more details of the strange situation they find. I don't think it would be giving away too much, however, to say that Haldeman does in the end adequately explain the mysterious situation, and does so in a manner that is both thematically satisfying, and rationally consistent.

Except, well—here I feel compelled to make some general comments that some might consider a "spoiler." Reader beware.

One of the grand tropes of SF has been the alien race as far evolved beyond us as we are above insects, and seeing intelligent life forms at our level as interesting experimental subjects, much as human entomologists consider an ant colony. Often, a member of these advanced aliens will find a way to communicate with the protagonists of the story, sometimes even taking human form, to explain previously unimaginable insights into the true nature of reality. Many of the field's best minds have created various versions of this concept, with varying degrees of success.

Joe Haldeman is one of the field's most coherent and logical thinkers, with the proven ability to convey any SF concept as well as it can be done. And in truth, he has done a creditable job with the concept in this novel.

No one has yet ever made this god-in-a-box concept truly believable to me. An alien evolved to an existence that is indistinguishable to us from magic, it seems to me, would hardly have an interest in—or even be capable of—talking to individual humans. Could you imagine, for instance, a human scientist taking enough interest in a small group of ants to take ant-form and communicate to them in ant-language to explain to them something of the larger reality beyond their colony?

The trope survives in SF, however, probably due to its inherent capability to invoke a sense of wonder, and because it can be an appealing attempt at a reconciliation of the rational and the spiritual sides of human philosophy. But it still strikes me as a god-in-a-box cop out.

This caveat aside, Haldeman's novel is extremely successful, and should please his many fans, despite the long wait and the high expectations the long wait creates. His chilling vision of future humanity, compelling story, and terse prose style make *Forever Free* one of the best SF novels to appear this year. □

D. Douglas Fratz

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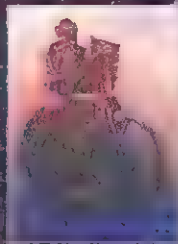
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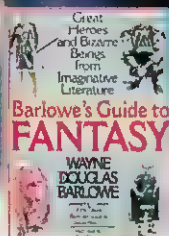
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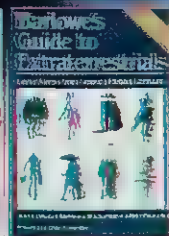
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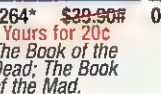
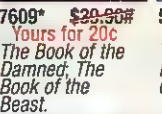
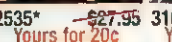
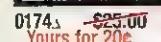
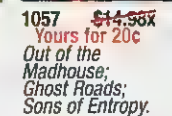
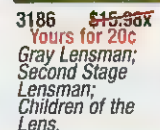
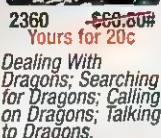
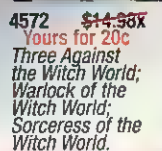
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TELEVISION

By Melissa J. Perenson

Star Trek's surviving series considers sending *Voyager* home.



ABOVE: For some crews, being out of uniform would count as an infraction, but for the cast of *Voyager*, we'll let it slide. RIGHT: Robert Picardo directs an episode this season about a manned Mars mission in 2057.

WHAT DO YOU DO TO TOP YOURSELF after six years on the air? It's a question that's puzzled even the best of Hollywood producers—including *Star Trek: Voyager's* Brannon Braga. Not even Braga knows where the ideas for *Voyager* are coming from anymore. While the ideas don't just magically flow, they do seem to come naturally, thanks to the production staff's intimate familiarity with the series.

"If I could answer that question, I would probably create an infomercial called *Imagination* and sell it as a commodity," laughs Braga, speaking from his home one night after a long day in production. "I don't know where they come from. I really don't. They just keep coming. I have a staff of very talented writers who come up with ideas. We also take pitches from freelance writers. And sometimes in the middle of the night an idea will occur to me. They just keep coming."

"It is one of the hardest parts of this job," he continues. "After 500 episodes of *Star Trek* being produced, and after me personally being involved with the franchise for nine years, you just think, 'How in the world can I keep coming up with the concepts?' Well, it's just process. And a lot of people are involved. You get a concept for an episode that you know is good, and you've got a staff of people who are going to help you fine tune it. Plus, you've

got Rick Berman, who is always very good about jumping in and providing important insights to the direction of the story. So it's not like it's happening in a vacuum; there are a lot of people involved in making sure the stories are as fresh as they can be. In the end, *Star Trek* really is the kind of show that is so elegant in its simplicity that you can virtually do any story you want—it's really just about a group of people on a ship. Period. And they can encounter anything. We can tell a story in virtually any genre—from Westerns to 1950s Sci-Fi serials to time travel to romance to comedies. Over the decades, *Star Trek* has become more than a Sci-Fi genre. Everything has to have a Sci-Fi twist, but you can do anything—and that's what I love about the show."

There is an advantage to having been with the series so long: At this point, Braga knows what works, and what doesn't. "I know everything, basically, that was done [before], so I don't fall into the familiar trappings. Although I can't say that that's true all of the time."

Now halfway through the sixth season, Braga's plan is a simple one on paper: "We're

hoping to outdo ourselves," he says, noting how strong the fifth season was. "There were certain episodes [last season] that surprised me at how good they were. Episodes like 'Drone' or 'Timeless' or 'Dark Frontier' or 'Someone to Watch Over Me.'"

"Dark Frontier," which featured the Borg *en masse*, was *Voyager's* first stab at a two-hour movie. The success of that effort has prompted Braga to plan on a second such two-hour telefilm—currently slated for the second half of the season.

Although *Voyager's* approach traditionally is to approach episodes as if they were miniature movies, Braga

went all out when planning "Dark Frontier." "In my own little fantasy world, I wanted to outdo *First Contact*. And on paper, anyway, it seemed like we had more action sequences than *First Contact* had. We go to the Borg homeworld; *First Contact* didn't even do that. And in some ways, somehow, on a television budget, we approximated the scope and the feeling of the movie. That, in large part, is due to our production team, which really works very hard and is very talented."

For the first time since *Voyager's* premiere, sibling series *Deep Space Nine* is not filming across the street on Paramount's lot. In spite of *DS9's* absence, there hasn't been any real impact on *Voyager's* production, which

Continued on page 24





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MOVIES

Continued from page 20

could have been affected considering that several production departments—such as makeup, costumes, and special effects—used to share resources between the two shows. “It hasn’t affected *Voyager* except in a positive way,” maintains Braga. “Our costume designer, Bob Blackman, and Mike Westmore, makeup guy, are not pulling double duty [now]. They’re focusing their efforts on one television series, so it’s bound to have a positive effect. They always got the job done [before], and I haven’t noticed a difference one way or another. But I would imagine that life is easy for them now.”

Character Redux

Already this season, there have been some large-scale episodes, including the third episode, “Barge of the Dead,” in which B’Elanna Torres (Roxann Dawson) is trapped in Klingon hell. As in past seasons, Braga has been trying to revisit as many characters as possible early on in the year. “We like to really delve into each character right off the bat, to kind of say to ourselves, ‘Where are these characters in this point of the journey?’ And then after that, it’s a free-for-all,” Braga explains.

“You’re always looking for fresh things to do with the characters,” he adds. “Let’s take a character like Janeway; she’s come into her own in the past two or three years. I think she’s more commanding and has a sense of humor, and I’ll cast a note for her bold and daring ideas. But now that we’ve done that, though, you don’t want to lose that because it works. However, you want to start exploring different facets of the character.”

Under consideration for later this year: A romantic interlude for Captain Janeway. “It seems that after five years, maybe it is time to let her get involved with someone. But I don’t know that; we may not do it,” Braga clarifies, hedging his bets. “If it doesn’t feel right, we won’t do it. Then there’s Seven of Nine. She started off a certain way, and she was very popular and successful, a counterpoint to Janeway’s Starfleet humanitarian approach. But two years have passed, and you don’t want to just keep doing that. So now we’ve warmed up Janeway and Seven’s relationship a bit, they’re not as conflictual as they once were. Now we need to start exploring different facets of Seven’s humanity.” Early in the season, there was a big Seven of Nine episode, titled “Survival Instinct,” in which Seven appeared as a Borg eight years ago. “We told the story in a parallel structure, such that there’s a story in the present where Seven is confronted with some drones from her unimatrix that were on that fateful adventure. And the other half of the episode follows the story of what happened eight years ago. It’s sort of like the movie *Alive*, only with Borg drones. Much of the episode takes place with Seven as a full-on drone.”

Continuing his character state-of-the-union, Braga points towards *Voyager*’s oft-overlooked second-in-command. “Chakotay. We really have never done enough with his character. Year after year we say we’ve got to start digging deeper into Chakotay’s character—and we never quite accomplish what we



want to. And this year will be the same. We’ll keep an eye on him, though. You’re always striving to take these characters further, and to find new aspects to them.

“The Doctor, he’s the kind of character the stories just keep on coming for. He’s so much fun, and he’s a hologram. He’s a lot like Data [in *Star Trek: The Next Generation*], so he’s easy to do stories for. The thing about him, though, is that yes, you have to keep finding new dimensions and things to explore about him, too. Neelix, of course, we’re always looking to take him out of the kitchen and find new things for him to do. Tuvok’s a toughie, because he’s not an emotional character, so it’s difficult to find angles for him. We’re going to maintain Torres and Paris’s relationship; they’ll still be involved romantically, but we still also have to make sure that Paris doesn’t become just the guy who runs 20th-century holodeck simulations. That’s been very successful; we’ve added a lot of freshness and fun to his character. But now what? You just can’t keep doing that over and over again. And Torres is going to start exploring more of her Klingon side now, [starting with “Barge of the Dead”].

For the actors, being able to explore their alter-egos in a character-centric episode is a bonus. For example, the sixth episode, titled “Alice,” focuses on Tom Paris. “The story of Alice deals with Paris’s obsession with fast ships and that classic male connection to toys and gadgets,”

adds Robert Duncan McNeill, who plays Paris, the object of the ship’s affections. “We happen to come upon a junkyard in space, and we trade for some things we can use on the ship, and while we’re looking at what it’s got, I find this old, beat-up shuttle, and I fall in love with it; it’s this fixer-upper kind of thing. And I convince everyone that it’s worth trading for and I can fix it. So we get the shuttle, and Paris becomes obsessed with fixing it up. But it’s not an ordinary shuttle; it’s haunted by this technological ghost. It has a personality and a life of its own—and it starts to control Paris in a lot of ways. It’s kind of creepy. And it’s a good character episode, because it allows Paris to deal with someone different than Harry or B’Elanna or the people he’s always dealing with, so he’s a little freer to express how he feels and where he’s at right now, after six years of being on *Voyager*.”

Even the scenes opposite regulars like B’Elanna offered new stretches for McNeill. “I was really free to yell and scream and do a few things that Paris doesn’t normally do. It was a real confrontation scene with B’Elanna. I didn’t want her to go to the captain and have him thrown in the sick bay or the brig or something, and he really directed it at B’Elanna, and it’s because he was directing it at this machine. It was a lot of fun to play against the anger and frustration of B’Elanna, and to play the confusion of the mind control. Meanwhile, [the ghost] was in the hallway throughout this fight. So it was wonderful, with two things going on at once. That was true for a lot of the show,” recalls McNeill. “There was the reality going on, and then there was Paris in his imagination or his mind,

with this character of Alice right there with him in the scene. It was a



TOP: Brannon Braga is the man who will decide when and if *Voyager* returns home. LEFT: Jeri Ryan as Seven of Nine changed the chemistry of the last surviving *Trek* incarnation.

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ABOVE: After six years on the air, the crew members of the *Voyager* have become old friends. RIGHT: Actor Robert Duncan McNeill will be stretching himself this season.

lot of fun to play that. That was a neat thing to do."

Robert Picardo, meanwhile, was at the forefront for episode four, "Tinker Tenor Doctor Spy." "It's basically 'The Secret Life of Walter Mitty' story involving the Doctor. It's about the Doctor's fantasies and daydreams," Picardo elaborates. "Now you see his dreams as they are on the ship. The holographic family was an imaginary home life reality he had away from the ship. But this is the Doctor's imaginings about how indispensable he is on board, how he takes over for the Captain when the Captain is disabled—how all the women on board are desperately in love with him," Picardo chuckles. "That was the fun part. We had one scene I never wanted to end, where all three of our female officers, regular cast, were throwing themselves at me. That was a lot of fun."

Picardo also directs an episode in the first half of the season. Titled "One Small Step," it's about building a Mars command module, and trying to make it as accurate as possible

based on NASA's projections on what manned Mars missions might involve. The year this manned mission takes place: 2057. "It's really a wonderful homage to early space explorers. It's a Chakotay story, with heavy support from Tuvok, that's all about his roots and what drove him as a young man," explains Picardo enthusiastically.

Looking Forward

As of late summer, Braga and his team of writers had mapped out the first half of the season. "Now, we're getting into more murky territory, as we're projecting further into the season." However, while another visit from Species 8472 isn't on the docket, "we'll be introducing frightening new villains," Braga promises. "And we're definitely going to be doing another two-hour telefilm in the tradition of 'Dark Frontier' a little later in the season."

While there's no specific timetable for when *Voyager* will return home—although, presumably, it will happen before the end of the

series next year—there will be an episode set on Earth. The episode assumes a parallel track to *Voyager*, and follows the efforts of the Pathfinder Project, a group of people whose objective is to find *Voyager* in the Delta Quadrant. "It's an unusual episode in which we break format," says Braga. "And it turns out that one of the people working on this project is a character named Reg Barclay, who you may remember from the *Next Generation*."

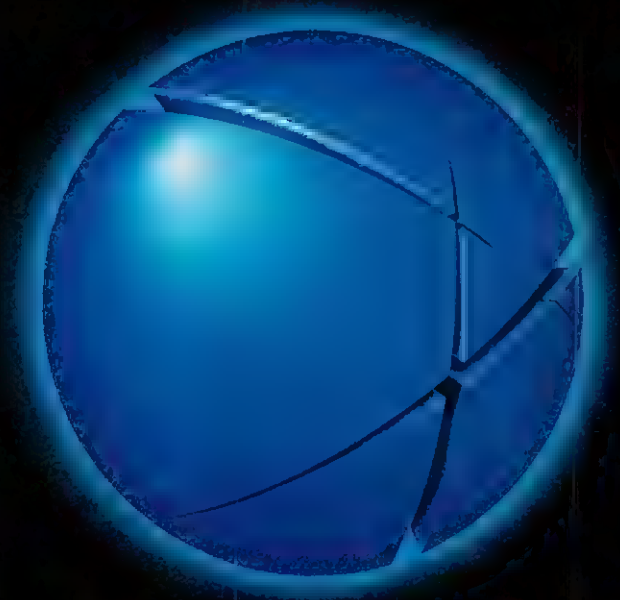
Expect to see another familiar face from *Next Generation* pop up as well. Marina Sirtis reprises her role as Counselor Deanna Troi, taking leave from the *Enterprise* to help Barclay, a former patient of hers while he was on the *Enterprise*, through a tough time. Barclay, of course, was first introduced nine years ago on *Next Generation* as a crewman who played out his holodeck fantasies using the likenesses of his commanding officers. Barclay has now regressed back to his old ways, and he's called upon Troi for assistance. The object of his obsession this time around: the crew of *Voyager*, which he is determined to find.

"It's really a Barclay episode," confides Sirtis, who was asked back by the producers and decided to take the role after hearing she'd be working with actor Dwight Schultz again. This wasn't the producers' first attempt to land Sirtis for a guest role: Early in the show's run, they approached Sirtis for a guest spot, but she declined due to the brief nature of the role.

This time was different, she says, as she worked exclusively with Schultz. Rather than feeling as though she were the guest "on their show," Sirtis remarks, her two days of filming on *Next Gen*'s old soundstages really gave her a sense of *déjà vu*. "It really was like going home." An appropriate observation from a *Star Trek* veteran on the episode that might mark a turning point in *Voyager*'s own journey home. □



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Attention all alien lurkers: The people of Earth have a message for you.



beyond the sparse data on hand that things can get rather silly. Take those paranoid rumors that the U.S. Government has kept an alien spaceship stashed away, studying it for decades. (Humm ... so it's been studied incessantly by three generations of our brightest engineers ... without any of them blowing the whistle by now? Right.)

Nearly all SETI researchers agree that the public should be told right away, after a radio contact is confirmed. Most have initialed or signed a "protocol," agreeing in advance to principles of openness—for example, that the contents of any message must not be kept secret. Still, there is disagreement over some details. Although no signal from an interstellar civilization has ever been confirmed, for example, controversy rages over whether or not we should reply, when and if someone does pick up such a message. Should the openness policy extend to announcing the exact sky coordinates of the signal source, and the frequency extraterrestrials are using?

Many SETI researchers think any confirmed signal will automatically result in a cacophony of replies, sent at once by any nation or interest group with the technology to shape a radio signal. Everyone from Ayatollahs to the Mafia, from Science Fiction fans and Klingon-language scholars to recently discovered Amazon tribes will begin beaming appeals and tracts at a particular point in space, almost the very next day.

A minority in the SETI community thinks it would make better sense not to reply right away. Waiting a decade or so, to gather data and discuss the ramifications, might seem more prudent than instantly hollering into the unknown. Just look at the history of contact between human cultures in our recent past. The less technologically advanced nearly always suffered. True, aliens may be a lot nicer than 18th-century European colonialists were. Still, would you bet our future on it? Our limited experience suggests that it's sensible for the weaker party to be cautious, and concentrate on listening before shouting.

As I've written elsewhere, the apparent emptiness of the cosmos seems to suggest that something may be dangerous about our galaxy.

In fact, it seems that a message to aliens is about to be sent, whether we like it or not! This one doesn't involve expensive transmitters or engravings on a space probe. There won't be any extravagant shouting into interstellar space, because this message will go out swiftly and cheaply ... on the Internet. Toronto academic Allen Tough and several colleagues plan to issue an appeal via the World Wide Web, inviting extraterrestrial intelligent life forms to please say hello.

Tough's operating assumption—and hope—is that a smart probe from some advanced civilization may already be monitoring our telecommunications. Perhaps it has resided in our solar system for centuries or longer. Or maybe it was drawn in recently, by radio signals emanating from our little world. Either way, if it has kept up with the increasing sophistication of our signals, it may be monitoring the Web right now.

ABOVE: For decades we've been talking to the skies. But have our alien lurkers been paying attention? Art by Michael Whelan.

AS MOST OF YOU KNOW, I OFTEN USE WORKS OF fiction to explore the notion of nonhuman intelligent life. Like other SF authors, I find it fun to imagine and depict the outlandish—or eerily familiar—forms and aims that alien beings might take. Some of you may also know that I'm involved in the same subject at the scientific end, participating in the International Astronomical Union's Subcommittee on Bioastronomy. SETI—the Search For Extra Terrestrial Intelligence—can be a difficult and confusing topic, straddling the concerns of everyone from sober researchers to politicians to dreamers, hoping that alien contact may somehow save humanity “from ourselves.”

The good news? This widely shared interest seems to reflect an eager expansiveness of spirit and willingness to entertain fresh ideas far beyond our mundane lives. The bad news is that our imaginations have forged so far

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In other words "they" may already be here, in a manner of speaking. They just haven't chosen to speak up. Dr. Tough hopes to do something about this possibility. His Web page is designed to draw the attention of any alien "lurker" (or lurkers) out there. He hopes the content of this page will persuade the alien to abandon its present policy of silence. Perhaps the right kind of invitation will sway ET (or ET's probe) to phone us.

Before crafting any message, we should ask—What do we already know? The one clear fact about any purported lurking space alien or probe is that most of us currently are unaware of its existence. It's been silent, so far. At least to a majority of human beings.

The most likely conclusion to draw from this sole fact? Why, that such a lurker probably doesn't exist! Still, that's not the only possible explanation. My 1983 short story "Lungfish" explored this very situation, coming up with a number of possible alternatives. I admit, the subject fascinates me.

So let's stretch our imaginations! Before posting my contribution to Dr. Tough's site, let me offer the draft below, for your bright readers to discuss before it's committed to electronic form and cast into space.

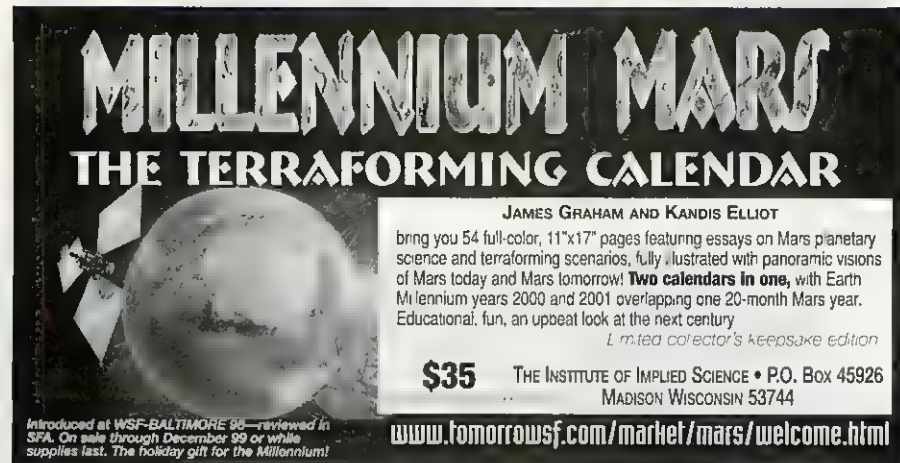
Here's what I came up with, so far—

TO ANY ALIEN LURKERS PROWLING OR WAITING OUT THERE—IF YOU ARE READING THIS, PERUSING THE ELECTRONIC COMMUNICATIONS NETWORK OF OUR LONELY LITTLE PLANET, PLEASE PICK WHICHEVER OF THE FOLLOWING APPLIES TO YOU, AND IGNORE THE REST.

1. If you've spent years monitoring our radio, our television—and now our Internet—and the reason you haven't answered is that you are afraid of the rash or violent behavior you see depicted in our media ... please be reassured!

True, many of our movies and TV stories portray distrust, selfishness, hot tempers, and extreme violence. But you should know that, in fact, very few of us ever experience events as disturbing as those you see in our dramas. Most of us actually dislike such violent traits in ourselves. By exploring these ancient feelings, inherited from a dark past, we hope to understand them better. Also note: In a vast majority of these stories, the "loser" tends to be whichever person or group was more aggressive or intolerant at the start. Doesn't that say something about our moral heading?

The same holds for nonfiction. Despite news reports depicting a riotous world, the actual rate of mayhem in human society has declined dramatically during the past five decades, if measured on a per-capita basis. Look up the actual numbers! More than two thirds of all humans living today have never personally witnessed war, mass starvation, or major civil unrest—an unprecedented fraction who have been allowed to improve their lot in peace. Many ancient bigotries and cruelties have been lessened, or have at least been put in bad repute. And with the spread of education, many greater advances now seem possible. True, these achievements are



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still woefully unfinished. They leave tremendous amounts for us yet to do, in working toward a just and mature civilization. But they are clear signs of progress and overall good will by a majority of our species.

Despite the self-critical news reports and flamboyantly exaggerated "action" stories you may have watched, please be assured that most human beings are calm, nonviolent people who treat strangers well. Many millions of us would be thrilled to meet you, and would expend every effort to ensure that peaceful, honest visitors are made welcome.

2. If you've monitored our TV, radio—and now our Internet—and the reason you haven't answered is that you are damaged, or otherwise incapable of sending, please be assured that we are on our way!

We have begun, slowly, to explore our solar system. If you are not too deeply hidden, we should come upon you in the due course of time. We hope to make peaceful contact and learn your needs. If you are incapacitated, and our explorers feel you mean no harm, they will surely render you whatever aid they can, and call on the resources of our planet to bring more. Try to find a way to let us know where you are and what you need. If you are lost and far from home, welcome to our small part of this enormous universe. We offer whatever warmth and shelter we have to share.

3. If you've monitored our TV, radio—and now our Internet—and the reason you haven't answered is that you see us as competitors, we ask that you reconsider.

In our long, slow struggle to achieve some degree of decent civilization, humans have slowly learned that competition and cooperation aren't inherent opposites, but twins, both in nature and in advanced societies. Under terms that are fair, and with good will, even those who begin suspicious of each other can discover ways to interact toward mutual benefit. (Use the Web to look up the concept of a positive-sum game, where "win-win" solutions bring success to all sides.) Surely there are ways that humanity—and other Earth species—should be able to join the cosmos without causing injury to your legitimate aims. Remember, most stable species and cultures seem to benefit from a little competition now and then! So please answer. Let's talk about it.

4. If you've monitored our TV, radio—and now our Internet—and the reason you haven't answered is that you are waiting for us to pass some milestone of development ... well then, how about a hint? Pretty please?

If that milestone is for us to assertively ask for membership in some society of advanced sapient beings, please take this paragraph as that asserted step, taken by one subgroup of humanity, hoping to serve the interests of all our planet. Please give us the application forms ... and all information (including costs

and benefits) that we may need in order to make a well-informed decision about joining.

5. If you've monitored our TV, radio—and now our Internet—and the reason you haven't answered is that you are studying us and have a noninterference policy, let us now say that we understand the concept.

Observing more primitive species or cultures can seem to demand silence, at least for a time, in order for the observer not to interfere with the subject's natural behavior. Your specific reason may be scientific detachment, or to let us enjoy our "innocence" a while longer, or perhaps because we are unusual in some rare or precious way. In fact, we can imagine many possible reasons you might



When the aliens finally answer back, we hope they won't be speaking like anything from The Thing (above) or the TV show The Invaders (right).

give for keeping the flow of information going in just one direction—from us to you—and never the other way. Similar rationalizations are common among human beings.

Of course, some humans might respond that it was cruel of you not to contact us during the Cold War, when news of contact might have prodded us away from our near-brush with nuclear annihilation. Or that you should have warned us of the dangers of ecological degradation. Others might argue that it's heartless to withhold advanced technologies that might help solve many of our problems, saving millions of lives.

In fairness, some other humans would argue that we have won great

dignity by doing it all by ourselves. They take pride in the fact that we show early signs of achieving maturity by our own hard efforts, alone. If your reason for silence is to let us have this dignity, that might make sense ... so long as it isn't simply an excuse, a rationalization, to cover more selfish motives.

To interfere or not? It is a moral and scientific quandary that you answer by silently watching, to see if we'll solve our problems by ourselves. (Perhaps we are doing better than you expected?) Who knows? Your reasons may even have great validity.

Still, if you continue this policy, you cannot expect profound trust or gratitude when we finally overcome our hardships and emerge as starfaring adults without help. Oh, we'll try to be friendly and fair. But your long silence will make it hard, at least at first, to be friends.

We understand cold-blooded scientific detachment. But consider—the universe sometimes plays tricks on the mighty. In some distant age, our roles may be reversed. We hope you'll understand if our future stance toward you is set by your past-and-present behavior toward us.

6. If you've monitored our TV, radio—and now our Internet—perhaps you have a policy of noninterference for a different reason ... in order to spare us and our culture from some harm that might come as a result of contact.

An erosion of our sense of free will? Or our sense of having a high culture? We can understand this notion, too. Certainly the history of first contact between human cultures tells that the one with lower technology and sophistication often suffered ill effects. If mercy motivates your reticence, we grasp the concept. Yet, this provokes a question: Are you absolutely sure? Can you be certain we're so fragile? Is it possible you might be mistaken? Or (again)



perhaps rationalizing a decision that you made for other reasons?

Maybe you should test it by contacting small groups of humans—perhaps via the Internet—to explore matters that concern you. This will be surprisingly easy and safe, since you can make your enquiries in the form of e-mail letters, or by participating anonymously in online discussion groups. You can even call yourselves by your real names! Everyone on the discussion group will simply assume you are eccentric human beings, using Internet pseudonyms to play-act as aliens! Any awkwardness with our language will be taken as another part of your act.

On some sites, your overtures will be dismissed. Elsewhere, bright individuals will gladly play along, engaging you in conversation with lively enthusiasm, pretending to believe you are alien and discussing your concerns for the sheer intellectual joy of doing so. Anyway, you'll get to taste the diversity of human thought, plus a chance to reconsider your assumptions.

Of course, it's possible that you are already doing this and testing us, perhaps by posing as eccentric participants in some of today's Internet discussion groups ... or possibly by writing intriguing Science Fiction stories under a pseudonym, to tease our imaginations.

Perhaps you even lace these works with special clues that can only be deciphered by purchasing and carefully reading every one of the purported author's books.

In hardcover, yet.

7. If you've monitored our TV, radio—and now our Internet—and the reason we don't know it is that you are already in contact with one or more human subgroups—perhaps a government or clique of individuals—please consider the following.

Human beings have discovered that secrecy is seldom an effective way to create or conduct good policy. It can have many temporary uses. But over the long run, we appear to make our best and most creative decisions—and commit the fewest errors—in situations of openness.

The groups or governments you converse with may claim that there are good reasons to keep contact secret from the public. It is even conceivable that such reasons have short-term validity. But small groups of humans are also notorious for rationalization—elites have always claimed that the masses are too stupid or fragile to understand. After all, this helps justify their special position in society. Such rationalizations can be self-sustaining, far beyond their initial usefulness.

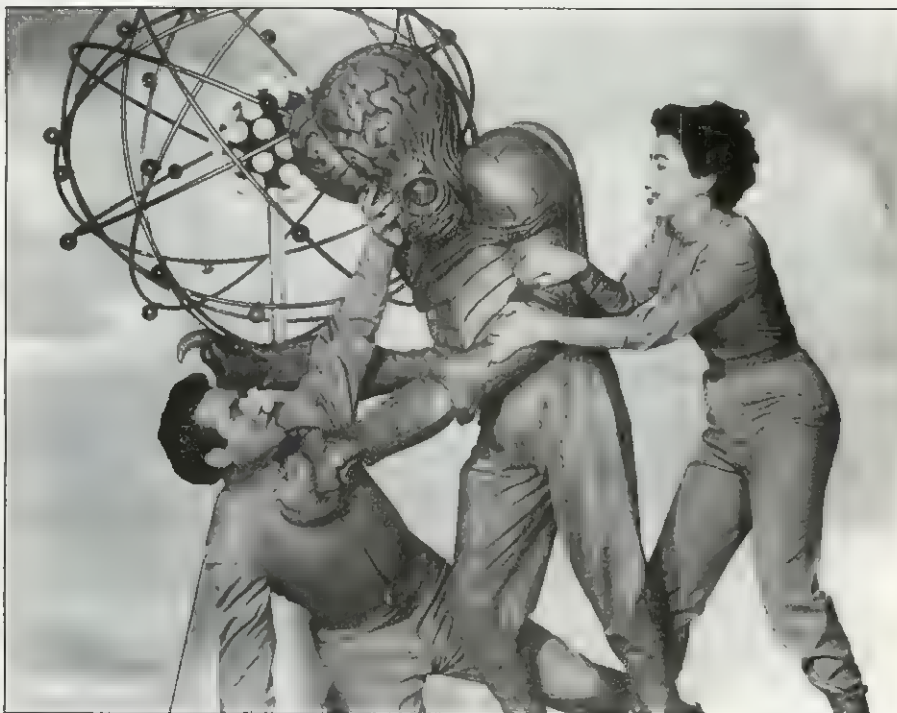
We suggest you check this out by using our Internet in the manner described (in section #6). You might join some discussion groups. Apprise them of the supposed reasons for secrecy—under the guise that you are just another human, pondering an abstract notion. If most or all of the participants disagree with those reasons, you may find it's

time to re-evaluate your policy, and make yourself known to the rest of humanity.

8. Let's suppose you've monitored our TV, radio—and now our Internet—and the reason you haven't answered is that you enjoy watching.

Perhaps you draw entertainment from our painful struggles to survive and grow. Worse, you may be profiting by pulling our cultural, scientific, and artistic riches off the Internet, without seeing any need to reciprocate or pay for them. In that case, there is a word for what you are doing. It's called stealing.

Stop it now. We assert ownership over our culture, and a right to share it only with those who share in return. In the name of whatever law or moral code applies out there, do not take without giving or paying in return.



Let our visitors not be the monsters from This Island Earth (above). Instead, let them come with a message of hope and peace as in The Day the Earth Stood Still (right).

The same holds double, if you've been responsible for any of our current problems; for example, if you are behind any so-called "UFO sightings."

The group authoring this Web site consists mostly of SETI scholars who don't believe in UFOs. But millions of humans do believe. The reports they circulate describe purported visitors behaving in ways that are almost universally secretive and nasty, often downright vicious. Others claim that aliens have meddled in our politics, social structures, or even our genes. Again, we in this group don't believe these stories. But if any of them happen to be true, and you are responsible, we ask you to desist at once.

Instead, come forth openly, as honorable visitors should. SETI personnel would be eminently qualified to make the arrangements.

Consider that maliciousness inevitably has consequences. If either of the scenarios described in this section are true, and you still

refuse to come forward honestly, then we have just one thing to say to you. Go away! Ask your parents, guardians, or other responsible folk to please come and see us instead.

We hereby assert and demand any rights we may have, to appeal for relief or protection from the sort of behavior herein described.

9. Let's say you've monitored our TV, radio—and now our Internet—and the reason you haven't answered is that you are meddling secretly, in ways that you feel are beneficial to us. If so, please consider what has happened to human civilization during the past century.

We spent the first half of it plunging headlong into passionate ideologies, giving as much devotion to simpleminded political doctrines—from communism and fascism to

nationalism, fundamentalism, and even solipsistic individualism—as we used to dedicate to religion. Was this partly your doing? Or was it a horrible, adolescent phase that you could only watch us pass through, like an awful fever? In any event, it damn near killed us.

The second half of the century was also a turmoil, featuring many episodes of wrath, violence, and ultimate risk. And yet, across the past five decades, ideologies have gradually lost some of their grip on millions. Instead of oversimplified assumptions or "rules" of human behavior, multitudes began living according to pragmatic systems that allow give-and-take among countless complex citizens. Our media filled with messages promoting both tolerance of diversity and suspicion of central authority. Eccentricity became more acceptable. And while varied forms of hatred still fill many hearts, hatred itself has acquired a growing odor of disrepute.

As bigotries slowly give way, there has also been change among our utopian dreamers. Even idealists now admit that there are roles for both competition and cooperation in human affairs. Exhorting people to be good has never worked as well as giving them the freedom to hold each other accountable.

Did you help bring about this recent trend? If so, thanks. We can understand why you would want us not to know of your help. It makes children proud to think they did something all by themselves.

On the other hand, perhaps this recent trend puzzles you. Do you have some ideology that you believe in? Some simple prescription that you think should be just right for us? Something that worked for your species, and now you hope to push on us "for our own good"?

If so, we suggest you reconsider. Nearly all the positive things we've accomplished lately came about by abandoning simplistic formulas and learning to embrace our complexity instead. Please look up our recent scientific discoveries concerning emergent properties, complexity theory, and related matters. (A good start might be Kevin Kelly's book, *Out Of Control*.) Then join some of the best discussion groups, as recommended in items 6 & 7. Perhaps we can guide you to a better understanding of our intricate and sometimes perplexing natures.

In the meantime, please stop interfering with things you do not understand.

10. All right, let's suppose you haven't answered because the universe is horribly dangerous. For instance, perhaps radio transmissions tend to be picked up by "berserker" world-destroyers, sent to wreck burgeoning civilizations as soon as they rear up and speak.

Well, you could have warned us, no? But then, any warning might expose you, and besides, by now we must have already poured

out so much bad radio and television that it's already too late. Is a great big bomb already headed our way, to punish us for broadcasting *Mister Ed*?

In that case, maybe you could spare us some battlecruiser blueprints and disintegrator-ray plans? Some spin-dizzies and Alderson Field generators would come in handy.

Do try to hurry, please.

11. I guess we could have stopped at 10 options. But that would have been terribly parochial and narrow minded, revealing a chauvinistic cultural bias in favor of beings with five digits on each hand. So, for all you lurkers out there who use base-11 math and such, here's a final hypothesis—that you've monitored our TV, radio—and now our Internet—and the reason you haven't answered is that you are weird.

Are you waiting until the Earth evolves a more physically attractive sapient race, more like cockroaches? Do you stare down at us and imagine that automobiles are the dominant life form? Are you afraid that letting us onto the Galactic Internet will unleash torrents of Spam-advertising and pornography? Perhaps you think we humans all look great when we're old, and galactic-level immortality technologies would leave us with yucky-looking smooth skin for centuries, so we're better off without them?

Maybe you have an excuse like the following one, sent in by a member of a SETI-related discussion group:

"Yes, we have been monitoring your earthling communications, but we cannot respond yet. The Edict of Knodl states that all first-contact situations be initiated only during the High Season of Jodar, which on our calendar does not begin for another 344 years. Sorry, but your first radio transmissions reached us just nine years too late for the last one, and the Lords of Vanathok do not look kindly upon violations of the Edict. This may sound like we're a bunch of close-minded religious zealots, but I think you need to get out and see the rest of this galaxy cluster before you make a judgment like that. All praise Knodl, and may his seven tentacles protect you from harm."

If your reason is something like that ... or you take pride in some other special weirdness ... well, just you wait until we get out there. You think you've seen weird? We have beings down here called Californians! They'll show you a thing or two... □

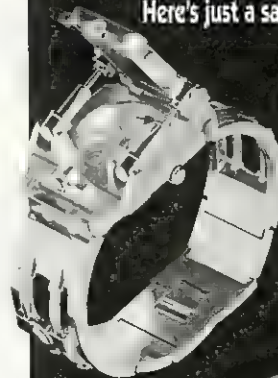
David Brin is a scientist and best-selling novelist. His 1989 thriller Earth foresaw both global warming and the World Wide Web. A movie with Kevin Costner was loosely based on The Postman. The Hugo- and Nebula-winning Startide Rising is in preproduction at Paramount Pictures, and Brin's latest novel, Foundation's Triumph, brings to a grand finale Isaac Asimov's famed Foundation universe. Readers are invited to discuss this topic on their own Internet forums, then send summaries and comments to d_brin99@Yahoo.com.

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To discover the true meaning of art, sometimes it
doesn't help at all to ask the artist—
you have to ask the artwork itself.

victims

It was Stephen Swalecliffe's own idea to call his first exhibition "Victims." I didn't think it was a good idea at the time, but Stephen isn't the kind of artist to listen to his agent's advice. Some still say, even now, that he isn't really an artist at all, but that's utter nonsense. He's *the* artist, not merely of the 2010s but of the entire 21st century, and it isn't simply the fact that he's my meal ticket that makes me say so. Even if I weren't his agent I wouldn't be able to think of any other modern artist who has achieved such a remarkable synthesis of the representational and the conceptual. The man is an authentic genius.

"They don't *look* like victims," I told him, when he first showed me around his studio. "It's all very well to give them titles like *Roumanian Orphan* and *Rapee*, but that's not what you've put into their faces. They don't seem anguished. In fact, they all seem quite tranquil—especially *Junkie* and *Redundant Miner*—and the expressions of self-satisfaction on the faces of *Leukaemia Sufferer* and *Ninety-Nine Years Old* surely give the lie to their supposed wretchedness. OK, so they're all lying down instead of standing erect, but it seems to me that it would be more effective, as well as more accurate, simply to call them sleepers."

"They *are* victims, Charles," he told me, firmly. "Every last one of them. They don't wear their anguish on the outside, but that's evidence of their courage and hopefulness. They've laid themselves down *because* they're victims, because they've become thoroughly sick and tired of being victims, and because they've decided to take the chance to be something else instead."

I didn't put up too much of a fight. The last thing I wanted was for Stephen to start wondering whether he'd be better off with another

By Brian Stableford
Illustration by David Beck



agent. I knew that his stuff would sell, and I was pretty sure that once his prices took off they'd keep on rising. Sculptors aren't nearly as prolific as painters and there's a great deal more trouble involved in showing their work, but the good ones are worth the extra investment. I'd never expected to encounter one as good as Stephen Swalecliffe.

Before I saw the first 13 pieces in his Brixton studio I would have said that reclining nudes had been done to death and that supine ones were merely stretching the cliché. I would also have said that flesh-colored statuary was a bad idea, because the results always look like wax-works that couldn't make it to the plinths at Madame Tussaud's. Almost as soon as I stepped through the door of his workroom, though, I revised my opinion. Even at first glance, Stephen's work was the kind that required all received wisdom to be consigned to the trash can.

"They're made of glass!" I said, as soon as I touched *Battered Wife*. "I thought they were plastic."

"They're vitrified," he agreed. "Actually, glasses and plastics aren't so very different, in terms of the underlying physics. They're all super-cooled liquids which set hard without undergoing the kind of abrupt crystallization that causes a fundamental change of state. Window glass is inorganic, of course, whereas polystyrenes and the like are long-chain carbon molecules, but most organic substances can be vitrified in such a way as to produce a texture much more reminis-

says that he's given them all a ticket to an indefinite but possibly better future, and a means of paying their fare."

"Paying their fare?" I echoed, quite dumbfounded.

"In exchange for putting them into a state of suspended animation they gave him the right to exploit their vitrified bodies commercially, for a period of not less than 99 years. The contracts they signed allow him to exhibit them as works of art and to lease them to galleries or private collectors for periods not in excess of 99 years. The contracts are do-it-yourself jobs, which may turn out to be not worth the paper they're typed on, but at least he made the effort."

Prior to that moment I had thought that Stephen's insistence that none of his "sculptures" should be sold until the exhibition had run its course was mere affectation. He hadn't given me the least warning that what I would eventually be negotiating on his behalf would be leases rather than sales.

"What you're telling me," I said, hesitantly, "is that I've been taken for a ride—exploited by a con man."

"Not at all. Dr. Swalecliffe asked me to assure you that he still considers you to be his agent and that he remains confident you will not find the role un lucrative. He insists that he never actually lied to you—he merely refrained from telling you exactly how he produced his so-called works of art. He says that if you'd only bothered to lis-

"Oh, he admits that they're the bodies they're dead. He claims that they're in that he hasn't done them any injury

cent of window glass than polystyrene. It usually requires very low temperatures, but the work on cryoprotection I did while I was in California threw up some interesting spinoff...."

"So it's *not* glass," I said, trying to keep things simple.

"It all depends what you mean by glass, Charles," he replied, a trifle wearily. Scientists hate simplicity, and Stephen Swalecliffe had been a scientist for 15 years before he accepted that his true vocation was to be an artist. He did try to continue the scientifically pedantic explanation, but I didn't even try to keep track of it or pretend to be listening. I don't think I'd ever heard the word "cryoprotection" before, and I certainly didn't know what it meant.

Everybody teases me now because I never asked what seems to them—in retrospect—to have been a very obvious question, but it's not the sort of question that anyone seriously involved in the art world could have voiced. Reclining nudes and naturalistically colored statues are bearably trite, but the idea of sculptures that aren't really sculptures but corpses dressed up with wax or clay is the worst of all horrid clichés—the stuff of the corniest horror movies. *Of course* I didn't ask Stephen Swalecliffe whether he'd assembled a company of actual victims and persuaded them to allow him to turn them to glass. I never entertained the least suspicion, not even for a moment. You could have knocked me down with a feather when the CID waltzed in on day three of the exhibition at the Hartley Street Gallery and arrested my latest protégé for multiple murder.

I was delighted when Arthur Such—a canny old soul from a firm of lawyers recommended by Daddy—came back to me with the good news that Stephen intended to plead not guilty to all the charges and was convinced that he could clear his name.

"I *knew* it was ridiculous," I said. "The leap of the imagination required to conclude that they're actual bodies rather than accurate images is so absurdly reckless that I can't imagine why the police didn't simply refuse to entertain it. When will he be released?"

"Oh, he admits that they're the bodies of real people, Mr. Carnforth," Such informed me, airily. "He just denies that they're dead. He claims that they're in a state of suspended animation, and that he hasn't done them any injury whatsoever. Quite the reverse, in fact. He

ten to his discourse on cryoprotection—or even to look the word up in a dictionary—you'd probably have been able to figure it out for yourself. He strongly suggests that you retain the arrangement you made with him, because if and when the jury at his trial find him not guilty, the precedent will clarify and firmly establish his right to exhibit and lease his works. I've advised him that the matter's not nearly as simple, legally speaking, and that settling the complex issues involved could well tie us up in court for years, but Dr. Swalecliffe doesn't seem to be intimidated by that prospect. He expressed his firm conviction that the publicity generated by his trial will send the price of his works *sky high*. His phrase, of course."

"You're joking," I said.

"I'm merely reporting what Dr. Swalecliffe told me," the attorney retorted, primly. "He did not give me the impression that he was joking. When I tried to impress upon him the seriousness of his situation, as seen from my point of view, he agreed that it was indeed *very* serious, and that he intended to treat it as such."

I thought about my own situation for a few moments, recalling the trouble that *avant garde* artists of the '90s had got into when they'd begun obtaining bits of dead people from mortuaries for use as raw materials. There were, apparently, all kinds of rules and regulations regarding the disposal of corpses, which could be very inconvenient for an agent trying to sell art works made of dead human flesh. If Stephen Swalecliffe's works weren't actually dead, however, an entirely different set of precedents came into play. No objection had been raised to Tilda Swinton lying in a glass box for days on end in the same hectic decade, because the box wasn't subject to the health and safety regulations normally applicable to places of work.

"If the supposed victims are still alive," I said cautiously, "there won't actually need to be a trial, will there?"

"Interesting point," Such observed. "My client has already been charged with all 13 murders, even though *Roumanian Orphan* has yet to be properly identified, and the CPS aren't likely to drop the charges unless they can be provided with acceptable proof that the alleged murder victims are not, in fact, dead. In the light of Dr. Swalecliffe's statement I have applied for a court order requiring the coroner to desist from attempting to conduct a *post mortem* examination

of any of the alleged victims, and I will shortly apply for them to be made wards of court until the matter of their status can be conclusively settled. I may have to resort to *habeas corpus*, but I presume that all the interested parties will eventually be able to agree on the matter of suitable temporary accommodation for the disputed items. At present, however, it doesn't seem likely that we shall be able to agree on a timetable for the provision of proof of innocence."

Lawyers can be almost as difficult as scientists when it comes to speaking in layman's terms, but I could see where he was going.

"You mean that Stephen won't reanimate them to order?"

"Exactly," he agreed. "Dr Swalecliffe has pointed out to me, rather emphatically, that the contracts he made with his clients contain rigidly restrictive specifications as to the conditions in which premature reanimation might be permitted. His view is that he is under an obligation to all his clients to maintain them in suspended animation for the agreed terms, unless and until those conditions are met. As I've already pointed out, the legality of these contracts might be disputable—but Dr. Swalecliffe has persuaded me that my clear duty, at least for the time being, is to protect his obligations as best I can. The burden of proof does, of course, lay with the prosecution."

"So what you're saying," I said, as I struggled to keep up with the state of play, "is that it's up to the opposition to prove that they're

I soon became bored with accounts of Arctic frogs spending months on end in a vitrified state at temperatures of 30 or 40 degrees below zero, and all the convoluted arguments supposedly proving that there was no possibility at all that any analogous process could be made to work at temperatures between 10 and 30 degrees above zero.

That was the entirety of the prosecution's case. Stephen Swalecliffe's "victims" couldn't possibly be alive, and because there was no dispute as to who had consigned them to their present state, Stephen Swalecliffe had to be judged guilty of murder. The waiting world could easily see, however, that the case had one fatal weakness. Henry Caldecott QC—the barrister briefed by Arthur Such—didn't need a battery of experts to refute the evidence of the prosecution's experts. All he needed was one single witness drawn from the ranks of the alleged victims.

The contracts that Stephen and his clients had signed were very specific about the lengths of time that each one would remain in suspended animation but there was an escape clause allowing for temporary revival in circumstances that subjected either party to "severe and mortal danger." Stephen and Arthur Such had flatly refused to allow any of the "victims" to be reanimated before the trial, but they both took the view that once the prosecution had completed its case the necessary conditions would be fulfilled.

of real people. He just denies that
a state of suspended animation, and
whatsoever. Quite the reverse, in fact."

dead, rather than Stephen having to prove that they're alive—and because you won't let the coroner cut them up, that's not going to be as easy as they'd like it to be."

"Put crudely," Such agreed, "that's about the size of it."

"So they *will* put him on trial—and it'll be up to a jury to decide how plausible his claim is that they're still alive."

"That seems to be Dr. Swalecliffe's preferred outcome," Such admitted. After a moment's further thought, he added: "I think I can probably obtain it for him."

It was at that point that I began to realize what Stephen Swalecliffe meant by "sky high." He might have been a mere amateur in the publicity and promotion business, but as a scientist he obviously knew that the sky is a hell of a lot higher than any mere art expert had ever been able to suppose.

The normal course of modern trials, as I understand them, is that the prosecution fields a couple of so-called experts who swear on the Bible that one thing is true, and then the defense trots out a couple of their own, who swear that the opposite is true, leaving the jury to pick the most plausible or toss a coin. The prosecution in the case of *Rex versus Stephen Swalecliffe* obviously didn't want to descend to that kind of lottery. They lined up a prodigiously long and very impressive series of eminent scientists to serve as expert witnesses. Every one of them swore on oath that it was impossible for human beings to be successfully revived after being put into suspended animation. There was a lot of technical stuff about the viability of the deep-frozen "corpsicles" currently being stored by American cryonics corporations, and a lot more about the possible relevance of that kind of work to Stephen Swalecliffe's vitrification technology.

I'm no expert, but so far as I could judge, all the world's cryogenists seemed to be queuing up to explain the logic of using cryoprotective agents to prevent cells from being damaged by crystal-formation as body temperature was lowered. The ones who couldn't get on the prosecution's list went on TV instead. All of them were united, however, in condemning Stephen's contention that if you had good enough protection you didn't actually need the very low temperatures.

The matter seemed simple enough to me, and to the millions following the trial in the newspapers, but lawyers will be lawyers. It took three weeks of esoteric wrangling to determine that Stephen would be allowed to carry out the reanimation procedure himself, in private, in order to protect his intellectual property rights in his as-yet-unpatented process. No other judgment would have been sensible or just, but a court of law is the last place where the obvious can be taken for granted. Fortunately, common sense prevailed in the end, and Stephen was allowed to go to work on the victim of his choice.

I shall never forget the moment when Doreen Grey—formerly known as *Rapee*—went into the witness box. If the trial had taken place in America there would have been cameras and legions of photographers, but England is the last place on Earth to maintain the commercial privileges of sketch-artists. The scribbling was positively furious—almost as furious, in fact, as Doreen Grey.

Technically, of course, Doreen Grey's mere appearance in the court was sufficient to collapse the prosecution's case. The CPS barrister should probably have applied to drop the whole thing before she even reached the courtroom, but he didn't. Maybe he was hoping that she'd show evidence of brain damage or some other unlooked-for side effect that would have allowed the CPS to go after Stephen for a lesser crime, but I think he knew well enough that he was part of an epoch-making event and didn't want to throw away his chance to conduct a cross-examination that would be historic in spite of its futility.

Stephen Swalecliffe never took the stand himself, reserving his account of his motives, ambitions, and prices for fee-paying interviewers. It was left to the eccentrically articulate Doreen Grey to explain both the logic and the aesthetics of her admittedly risky decision to exchange the nasty, brutish, and short span of ignominy currently available to ordinary citizens of the United Kingdom for an extended lifespan as a work of art—plus, of course, the possibility of reawakening in a future where immortality would be routinely available to the citizens of a technological Utopia.

"What do you suppose the wife of Francesco del Giocondo would have said if Leonardo da Vinci had offered her the choice that Stephen Swalecliffe offered to me?" Doreen asked the court, rhetorically. She then switched into a squeaky falsetto that is extremely

unlikely to have resembled the way that Leonardo da Vinci spoke. "See here, dearie, you can either carry on getting older till you die, until nothing is left of you but an image that might or might not become world famous and hang for centuries in the Louvre, or you can *become* that image, with pretty much the same chance of being hailed as a masterpiece and gawped at by generations of tourists, but always hanging on to the option of jacking it in and having another go if ever the world becomes a much less cruel and shitty place than it is today."

Doreen paused for effect, and the crowded courtroom held its collective breath while we waited for the inevitable answer.

To those who challenge his right to "play God" I simply say that "playing God" is what creativity means.

"Sod that old git Francesco and the fucking oil paints, she would have said," Doreen proposed, with crushing logic. "I want to be the Mona Lisa. Well, so did I—and I still bloody well do, so why don't you interfering motherfuckers just fuck off and let me get on with it?"

I won't say that I couldn't have put it better myself, but it certainly did the trick. It was the greatest *coup* in art history. Oh what a joy it was, on that glorious day, to be Stephen Swalecliffe's agent!

Arthur Such and Henry Caldecott QC were more than pleased, because the various corollary civil actions dragged on for years. Some of them are still going, in fact. Stephen's DIY contracts made lucrative work for a dozen lawyers for a decade and more, but the hold-up didn't stop the cash flowing into Stephen's coffers—and, of course, the coffers of Carnforth and Associates.

There's nothing like a little anxious anticipation to boost speculation, and the hypothetical value of the 13 "Original Victims" kept going up and up. It's remarkably easy to turn hypothetical value into real cash if you understand the theory of banking, and that's one area in which I can really hold my own. The fact that Daddy Carnforth's in the business helps enormously.

Stephen didn't couch his own explanations in the graphic terms favored by Doreen Grey, but he was equally eloquent in his own way. "I realized early in my career as a researcher in cryoprotection," he wrote—for the very modest fee of 30 pounds a word—"that the real problem faced by cryonics companies was one of maintenance. It costs money to keep bodies deep-frozen, and while they're stuck in some vault, bathed in liquid nitrogen, they're not really in a position to earn their keep. It seemed to me that developing a technology of room-temperature vitrification would kill two birds with one stone. The cost of storage would no longer be a problem, and the de-animated bodies could actually earn their own keep by serving as statuary. I always knew that the economic details would be complicated and controversial, and I admit that what I call *constructive slavery* might not, at the end of the day, be universally embraced as the ideal basis of negotiation, but I was sure that the principle was sound—and so it has proved. The demand for living statues has taken off in no uncertain terms, and I think it will increase even further once I've figured out a convenient way to vitrify people while they're standing up or otherwise posed—like, for instance, Rodin's *Thinker*."

I must confess that until the Swalecliffe trial I'd always been a staunch defender of elitism in the arts. I'd never been in the least interested in all those crusades to bring art to the common people, because the common people, although numerous, simply don't have the money to take a serious interest in art. The essence of Stephen's new art, on the other hand, is that it provides scope for people who could never earn a decent living as active individuals to get fully involved in the world of art. Many previous artists had given common

people a role in their work by using them as models, but Stephen had gone far beyond that.

Some people thought at first that it was a mere affectation on Stephen's part to refuse all applications for vitrification by the rich and the famous, but his principles were soon recognized as a moral and aesthetic masterstroke. "Let those who can enjoy life be condemned to it!" he said. "Only those who sorely need release should be allowed to become works of art. The essence of my work is the transformation of victims into victors!"

This was stirring stuff, and everyone knew it. If the rich had been allowed to enter suspended animation themselves there would, of

course, have been far less money available for the maintenance and aesthetic enjoyment of the statuesque time-travelers, but that was never the point of Stephen's methods of selection. He really is a champion of the downtrodden, a balancer of moral account books, a redeemer of the unfortunate. To those who challenge his right to "play God" I simply say that "playing God" is what creativity means—and creativity is the very essence of Art.

Stephen's monopoly of his new art form didn't last long, of course, and very few of those who have followed in his footsteps have his high principles. Some people say that he was a fool not to have applied for a patent on his process, but that's nonsense. Once scientists know that a thing can be done, it doesn't take long for them to figure out a dozen subtly different patent-busting ways to work the trick. The real measure of the man is that he found another and better way of keeping the opposition at bay.

If Stephen had introduced his techniques to the world as a mere utilitarian technology his career would have fizzled out as soon as the multinationals muscled in, but because he established it as an art form, he remains the master. The others can vitrify away to their heart's content, but they can't produce authentic Stephen Swalecliffes. At best, their products are copies, at worst, fakes. Nobody wants to be vitrified by anyone else if they can be vitrified by Stephen.

Stephen has always been too polite to comment, but I'm not too proud to point out to anyone who asks that Stephen Swalecliffe is the one and only practitioner of the new art whose technique has actually been proven in that worthiest of arenas, the English High Court. He, and he alone, has demonstrated to the world that his works really are time-travelers embarked on the greatest adventure imaginable. He, and he alone, has shown the world the full measure of the privilege enjoyed by those who obtain 99-year leases on his works.

There are those who claim that Stephen is taking unnecessary risks by allowing his masterpieces to be displayed in public. The "Victims" are, alas, rather brittle. There is always a risk in transporting them, and those that are exhibited in Tokyo and California are in perpetual danger of being toppled from their plinths and fatally agitated by earthquakes.

Perhaps they would be slightly safer if they were to be locked away in vaults, shrouded in cotton wool—but they are human, after all, and still alive. The thoughts in their heads are stilled and their glassy eyes are sightless, but they belong nevertheless to human society. They should not be locked away like lepers and psychopaths; they should be allowed to live in light, to take the favored positions on the world's stage that were denied them before they underwent their metamorphoses from victims to works of art.

Nor is the benefit of their new role entirely their own, for wherever one of Stephen Swalecliffe's "Victims" stands—or, for the moment, lies—those of us whose heartbeats still take the measure of our lives may see our future selves, our hope not merely of eternity, but of glory. □

a place so **FOREIGN**

The Temporal
Ambassadors
were supposed
to prevent the
future from
bleeding into
the past. That
didn't help
James Nicholson
when he found
himself trapped
between both.

MY PA DISAPPEARED SOMEWHERE IN THE WILDS OF 1975, WHEN I was just 14 years old. He was the Ambassador to 1975, but back home in 1898, in New Jerusalem, Utah, they all thought he was Ambassador to France. When he disappeared, Mama and I came back through the triple-bolted door that led from our apt in 1975 to our horsebarn in 1898. We returned to the dusty streets of New Jerusalem, and I had to keep on reminding myself that I was supposed to have been in France, and "polly-voo" for my chums, and tell whoppers about the Eiffel Tower and the fancy bread and the snails and frogs we'd eaten.

I was born in New Jerusalem, and raised there until I was 10. Then, one summer's day, my Pa sat me on his knee and told me we'd be going away for a while, that he had a new job.

"But what about the store?" I said, scandalized. My Pa's wonderful store, the only General Store in town not run by the Saints, was my second home. I'd spent my whole life crawling and then walking on the dusty wooden floors, checking stock and unpacking crates with waybills from exotic places like Salt Lake City and even San Francisco.

Pa looked uncomfortable. "Mr. Johnstone is buying it."

My mouth dropped. James H. Johnstone was as dandified a city-slicker as you'd ever hope to meet. He had blown into town on the weekly Zephyr Speedball, and skinny Tommy Benson had hauled his three huge steamer trunks to the cowboy hotel. He'd tipped Tommy two dollars, in Wells Fargo notes, and later, in the empty lot behind the smithy, all the kids in New Jerusalem had gathered 'round Tommy to goggle at the small fortune in queer, never-seen bills.

"Pa, no!" I said, without thinking. I knew that if my chums ordered their fathers around like that, they'd get a whipping, but my Pa almost never whipped me.

He smiled, and stretched his thick moustache across his face. "James, I know you love the store, but it's already been decided. Once you've been

By Cory Doctorow

to France, you'll see that it has wonders that beat anything that store can deliver."

"Nothing's better than the store," I said.

He laughed and rumbled my hair. "Don't be so sure, son. There are more things in Heaven and Earth than are dreamed of in your philosophy." It was one of his sayings, from Shakespeare, who he'd studied back East, before I was born. It meant that the discussion was closed.

I decided to withhold judgment until I saw France, but still couldn't shake the feeling that my Pa was going soft in the head. Mr. Johnstone wasn't fit to run an apple cart. He was short and skinny and soft, not like my Pa who, as far as I was concerned, was the biggest, strongest man in the whole world. I loved my Pa.

WELL, WHEN WE PACKED OUR BAGS AND PA WENT INTO THE horsebarn to hitch up our team, I figured we'd be taking a short trip out to the train station. All my chums were waiting there to see us off, and I'd promised my best pal Oly Sweynsdatter that I'd give him my coonskin cap to wear until we came back. But instead, Pa rode us to the edge of town, where the road went to rutted trail and salt flats, and there was Mr. James H. Johnstone, in his own fancy-pants trap. Pa and me moved our luggage into Johnstone's trap and got inside with Mama and hunkered down so you couldn't see us from outside. Mama said, "You just hush up now, James. There's parts of this trip that we couldn't tell you about before we left, but you're going to have to stay quiet and hold onto your questions until we get to where we're going."

I nearly said, "To where we're going?" but I didn't, because Mama had never looked so serious in all my born days. So I spent an hour hunkered down in there, listening to the clatter of the wheels and trying to guess where we were going. When I heard the trap stop and a set of wooden doors close, all my guesses dried up and blew away, because I couldn't think of anywhere we would've heard those sounds out in the desert.

So imagine my surprise when I stood up and found us right in our very own horsebarn, having made a circle around town and back to where we'd started from! Mama held a finger up to her lips and then took Mr. Johnstone's soft, girlish hand as he helped her down from the trap.

My Pa and Mr. Johnstone started shifting one of the piles of hay bales that stacked to the rafters, until they had revealed a triple-bolted door that looked new and sturdy, fresh-sawn edges still bright and yellow, and not the weathered brown of the rest of the barn.

Pa took a key ring out of his vest pocket and unlocked the door, then swung it open. Each of us shouldered our bags and walked through, in eerie silence, into a pitch black room.

Pa reached out and pulled the door shut, then there was a sharp click and we were in 1975.

Nineteen seventy-five was a queer sight. Our apartment was a lozenge of silver, spoked into the hub of a floating null-gee doughnut. Pa did something fancy with his hands and the walls went transparent, and I swear, I dropped to the floor and hugged the nubby rubber tiles for all I was worth. My eyes were telling me that we were hundreds of yards off the ground, and while I'd jumped from the rafters of the horsebarn into the hay countless times, I suddenly discovered that I was afraid of heights.

After that first dizzying glimpse of 1975, I kept my eyes squeezed shut and held on for all I was worth. After a minute or two of this, my stomach told me that I wasn't falling, and I couldn't hear any rushing wind, any birdcalls, anything except Mama and Pa laughing, fit to bust. I opened one eye and snuck a peek. My folks were laughing so hard they had to hold onto each other to stay up, and they were leaning against thin air, Pa's back pressed up against nothing at all.

Cautiously I got to my feet and walked over to the edge. I extended one finger and it bumped up against an invisible wall, cool and smooth as glass in winter.

"James," said my Pa, smiling so wide that his thick moustache stretched all the way across his face, "welcome to 1975."

PA'S AMBASSADORIAL MISSION MEANT THAT HE OFTEN SPENT LONG weeks away from home, teleporting in only for Sunday dinner, the stink of aliens and distant worlds clinging to him even after he washed up. The last Sunday dinner I had with him, Mama had made mashed potatoes and corn bread and sausage gravy and turkey, spending the whole day with the wood-fired cooker back in 1898 (actually, it was 1901 by then, but I always thought of it as 1898). She'd moved the cooker into the horsebarn after a week of wrestling with the gadgets we had in our 1975 kitchen, and when Pa had warned her that the smoke was going to raise questions in New Jerusalem, she explained that she was going to run some flexible exhaust hose through the door into '75 and into our apt's air-scrubber. Pa had shook his head and smiled at her, and every Sunday, she dragged the exhaust pipe through the door.

That night, Pa sat down and said Grace, and he was in his shirt-sleeves with his suspenders down, and it almost felt like home—almost felt like a million Sunday dinners eaten by gaslight, with a sweaty pitcher of lemonade in the middle of the table, and seasonal wildflowers, and a stinky cheroot for Pa afterward as he tipped his chair back and rested one hand on his belly, as if he couldn't believe how much Mama had managed to stuff him with this time.

"How are your studies coming, James?" he asked me, when the robot-ler had finished clearing the plates and clattered away into its nook.

"Very well, sir. We're starting calculus now." Truth be told, I hated calculus, hated Isaac Newton and asymptotes and the whole smelly business. Even with the viral learning shots, it was like swimming in molasses for me.

"Calculus! Well, well, well—" this was one of Pa's catch-all phrases, like "How *about* that?" or "What do you know?" "Well, well, well. I can't believe how much they stuff into kids' heads here."

"Yes, sir. There's an awful lot left to learn, yet." We did a subject every two weeks. So far, I'd done French, Molecular and Cellular Biology, Physics and Astrophysics, Esperanto, Cantonese and Mandarin, and an alien language whose name translated as "Standard." I'd been exempted from History, of course, along with the other kids there from the past—the Chinese girl from the Ming Dynasty, the Roman boy, and the Injun kid from South America.

Pa laughed around his cigar and crossed his legs. His shoes were so big, they looked like canoes. "There surely is, son. There surely is. And how are you doing with your classmates? Any tussles your teacher will want to talk to me about?"

"No, sir! We're friendly as all get out, even the girls." The kids in '75 didn't even notice what they were doing in school. They just sat down at their workstations and waited to have their brains filled with whatever was going on, and left at three, and never complained about something being too hard or too dull.

"That's good to hear, son. You've always been a good boy. Tell you what: You bring home a good report this Christmas, and I'll take you to see Saturn's rings on vacation."

Mama shot him a look then, but he pretended he didn't see it. He stubbed out his cigar, hitched up his suspenders, and put on his tailcoat and tophat and ambassadorial sash and picked up his leather case.

"Good night, son. Good night, Ulla. I'll see you on Wednesday," he said, and stepped into the teleporter.

That was the last time I ever saw him.

"HE DIED FROM BAD SNAILS?" OLY SWEYNSDATTER SAID TO ME, yet again.

I balled up a fist and stuck it under his nose. "For the last time, yes. Ask me again, and I'll feed you this."

I'd been back for a month, and in all that time, Oly had skittered around me like a shy pony, always nearby but afraid to talk to me. Finally, I'd grabbed him and shook him and told him not to be such a ninny, tell me what was on his mind. He wanted to know how my Pa had died, over in France. I told him the reason that Mama and Mr. Johnstone and the man from the embassy had worked out together. Now, I regretted it. I couldn't get him to shut up.

"Sorry, all right, sorry!" he said, taking a step backward. We were in the orchard behind the schoolyard, chucking rotten apples at the tree trunks to watch them splatter. "Want to hear something?"

"Sure," I said.

"Tommy Benson's sweet on Marta Helprin. It's disgusting. They hold hands—in church! None of the fellows will talk to him."

I didn't see what the big deal was. Back in '75, we had had a two-week session on sexual reproduction, like all the other subjects. Most of the kids there were already in couples, sneaking off to low-gee bouncetaria and renting private cubes with untraceable cash tokens. I'd even tussled with one girl, Katebe M'Buto, another exchange student, from United Africa Trading Sphere. I'd picked her up at her apt, and her father had even shaken my hand—they grow up fast in UATS. Of course, I'd never let on to my folks. Pa would've broken an axle. "That's pretty disgusting, all right," I said, unconvincingly.

"You want to go down to the river? I told Amos and Luke that I'd meet them after lunch."

I didn't much feel like it, but I didn't know what else to do. We walked down to the swimming hole, where some boys were already naked, swimming and horsing around. I found myself looking away, conscious of their nudity in a way that I'd never been before—all the boys in town swam there, all summer long.

I turned my back to the group and stripped down, then ran into the water as quick as I could.

I paddled around a little, half-heartedly, and then I found myself being pulled under! My sinuses filled with water and I yelled a stream of bubbles, and closed my mouth on a swallow of water. Strong hands pulled at my ankles. I kicked out as hard as I could and connected with someone's head. The hands loosened and I shot up like a cork, sputtering and coughing. I ran for the shore, and saw one of the Allen brothers surfacing, rubbing at his head and laughing. The four Allen boys lived on a ranch with their parents out by the salt flats, and we only saw them when they came

"No, I gotta go home and help Mama," I lied. I didn't feel like going skinny-dipping anymore—maybe never again.

Oly gave me a queer look. "OK. See you."

I went straight home, pelting down the road as fast as I could, not even looking where I was going. I let the door slam behind me and took the stairs two at a time up to the attic ladder, then bolted the trap-door shut behind me and sat in the dark, with my knees in my chest.

Down below, Mama let out a half-hearted, "James? Is that you?" like she always did since I came back home. I ignored her, like always, and she stopped worrying about it, like always.

Pa's last trip had been to the Dalai Lama's court in 1975. The man from the embassy said that he was going to talk with the monks about a "white-paper that the two embassies were jointly presenting on the effect of mimetic ambassadorships on the reincarnated soul." It was all nonsense to me. He'd never arrived. The teleporter said that it had put him down gentle as you like on the floor of the Lama's floating castle over the Caspian Sea, but the monks never saw him.

And that was that.

It had been a month since our return. I'd ventured out into town and looked up my chums, and found them so full of gossip that didn't mean anything to me; so absorbed with games that seemed childish to me; so strange that I'd retreated home. I'd prowled around our house like a burglar at first, and when I came back to the attic, all the numbness that had enveloped me since the man from the State Department had teleported into our apt melted away and I started bawling.

The attic had always been Pa's domain. He'd come up here with whatever crackpot invention he'd ordered this month out of a cata-

I'd call the robutler out of its closet and have it affix its electrode fingertips to my temples and juice my endorphins after a hard day at school, and when I was done, the faint smell of Pa's hair oil would cling to me.

into town with their folks for supplies. I'd never liked them, but now I saw red.

"You pig!" I shouted at him. "You stupid, rotten, pig! What the heck do you think you were doing?"

The Allens kept on laughing—I used to know some of their names, but in the time I'd been in '75 they'd grown as indistinguishable as twins: big, hard boys with their heads shaved for lice. They pointed at me and laughed. I scooped up a flat stone from the shore and threw it at the head of the one who'd pulled me under, as hard as I could.

Lucky for him—and me!—I was too angry to aim properly, and the stone hit him in the shoulder, knocking him backward. He shouted at me—it was like a roar of a wild animal, and the four brothers charged me.

Oly appeared at my side. "Run!" he shouted.

I was too angry. I balled my fists and stood my ground. The first one shot out of the water toward me and punched me so hard in the guts, I saw stars. I fell to the ground, gasping. I looked up at a forest of strong, bare legs, and knew they'd surrounded me.

"It's the Sheriff!" Oly shouted. The legs disappeared. I struggled to my knees.

Oly collapsed to the ground beside me, laughing. "Did you see the way they ran? The Sheriff never comes down to the river!"

"Thanks," I said, around gasps, and started to get dressed.

"Any time," he said. "Now, let's do some swimming."

log or one of the expensive, foreign journals he subscribed to, and tinker and swear and hit his thumbnail and tear his pants on a stray dingy and smoke his cheroots and have a heck of a time.

The muffled tread of his feet and the distant cursing while I sat in the parlor downstairs had been the homiest sound I knew. Mama and I would lock eyes every time a particularly forceful round of hollers shook down, and Mama would get a little smile and her eyes would crinkle, and I felt like we were sharing a secret.

Now, the attic was my private domain: There was the elixir shelf, full of patent medicines, hair tonics, and soothing syrups. There was the bookcase full of wild theories and fantastic adventure stories. There were the crates full of dangerous, coal-fired machines—an automatic clothes-washing machine, a cherry-pitter, and other devices whose nature I couldn't even guess at. None of them had ever worked, but I liked to run my hands over them, feel the smooth steel of their parts, disassemble and reassemble them. Back in '75, I'd once tried to take the robutler apart, just to get a look at how it was all put together, but it was a lost cause—I couldn't even figure out how to get the cover off.

I walked through the cool dark, the only light coming from the grimy attic window, and fondled each piece. I picked up an oil can and started oiling the joints and bearings and axles of each machine in turn. Pa would have wanted to know that everything was in good working order.

"I THINK YOU SHOULD BE GOING TO SCHOOL, JAMES," MAMA SAID, at breakfast. I'd already done my morning chores, bringing in the coal, chopping kindling, taking care of the milch-cows, and making my bed.

I took another forkful of sausage, and a spoonful of mush, chewed, and looked at my plate.

"It's time, it's time. You can't spend the rest of your life sulking around here. Your father would have wanted us to get on with our lives."

Even though I wasn't looking at her when she said this, I knew that her eyes were bright with tears, the way they always got when she mentioned Pa. His chair sat, empty, at the head of the table. I had another bite of sausage.

"James Arthur Nicholson! Look at me when I speak to you!"

I looked up, reflexively, as I always did when she used my full name. My eyes slid over her face, then focused on a point over her left shoulder.

"Yes'm."

"You're going to school. Today. And I expect to get a good report from Mr. Adelson."

"Yes'm."

WE HAVE TWO SCHOOLS IN NEW JERUSALEM: THE ELEMENTARY school that was built 20 years before, when they put in the wooden sidewalks and the town hall; and the nondenominational Academy that was built just before I left for 1975.

Miss Tannenbaum, a spinster lady with a moustache and a bristling German accent, terrorized the little kids in the elementary school—I'd been stuck in her class for five long years. Mr. Adelson, who was raised in San Francisco and who had worked as a roustabout, a telegraph operator, and a merchant seaman taught the Academy, and his wild stories were all Oly could talk about.

He raised one eyebrow quizzically when I came through the door at 8:00 that morning. He was tall, like my Pa, but Pa had been as big as an ox, and Mr. Adelson was thin and wiry. He wore rumpled pants

I didn't know what to say to that, so I just stared at my hard, uncomfortable shoes.

"How are your maths? Have you studied geometry? Basic algebra?"

"Yes, sir. They taught us all that." And lots more besides. I had the feeling of icebergs of knowledge floating in my brain, ready to crest the waves and crash against the walls of my skull.

"Very good. We will be studying maths today in the seniors' class. We'll see how you do. Is that all right?"

Again, I didn't know if he was really asking, so I just said, "Yes, sir."

"Marvelous. We'll see you at the 8:30 bell, then. And James—" he paused, waited until I met his gaze. His eyebrows were at rest. "I'm sorry about your father. I'd met him several times. He was a good man."

"Thank you, sir," I said, unable to look away from his stare.

The first half of the day passed with incredible sloth, as I copied down problems to my slate and pretended to puzzle over them before writing down the answer I'd known the minute I saw the question.

At lunch I found a seat at the base of the big willow out front of the school and unwrapped the waxed paper from the thick ham sandwich Mama had fixed me. I munched it and conjugated Latin verbs in my head, trying to make the day pass. Oly and the fellows were roughhousing in the yard, playing follow-the-leader with Amos Gundersen out front, showing off by walking on his hands and then springing upright. Amos's mother came from circus people in Russia, and all the kids in his family wanted to be acrobats when they grew up.

I tried not to watch them.

I was engrossed in a caterpillar that was crawling up my pants leg when Mr. Adelson cleared his throat behind me. I started, and the caterpillar tumbled to the ground, and then Mr. Adelson was squatting on his long haunches at my side.

"How are you liking your first day, James?" he asked, in his raspy voice.

"It's fine, sir."

I came through the door that led from our apt in 1975 to our horsebarn in 1898.

and a shirt with a wilted celluloid collar. He had a skinny little beard that made him look like a gentleman pirate, and used some shiny pomade to grease his hair straight back from his high forehead. I caught him reading, thumbing the handwritten pages of a leather-bound volume.

"Mr. Adelson?"

"Why, James Nicholson! What can I do for you, sonny?" New Jerusalem only had but two thousand citizens, and only a hundred or so in town proper, so of course he knew who I was, but it surprised me to hear him pronounce my name in his creaky, weather-beaten voice.

"My mother says I have to go to the Academy."

"She does, hey? How do you feel about that?"

I snuck a look at his face to see if he was putting me on, but I couldn't tell—he'd raised up his other eyebrow now, and was looking hard at me. There might have been the beginning of a smile on his face, but it was hard to tell with the beard. "I guess it don't matter how I feel."

"Oh, I don't know about that. This is a school, not a prison, after all. How old are you?"

"Fourteen. Sir."

"That would put you in with the seniors. Do you think you can handle their course of study? It's halfway through the semester now, and I don't know how much they taught you when you were over in," he swallowed, "France."

"And the work? You're able to keep up with the class?"

"It's not a problem for me. We studied this when I was away."

"Are you bored? Do you need more of a challenge?"

"It's fine, sir." *Unless you want to assign me some large-prime factoring problems.*

"Right, then. Don't hesitate to call on me if things are moving too slowly or too quickly. I mean that."

I snuck another look at him. He seemed sincere.

"Why aren't you playing with your chums?"

"I don't feel like it."

"You just wanted to think?"

"I guess so." Why wouldn't he just leave me alone?

"It's hard to come home, isn't it?"

I stared at my shoes. What did he know about it?

"I've been around the world, you know that? I sailed with a tramp steamer, the *Slippery Trick*. I saw the naked savages of Polynesia, and the voodoo witches that the freed slaves of the Caribbean worship, and the coolies pulling rickshaws in Peking. It was so *hard* to come home to Frisco, after five years at sea."

To my surprise, he sat down next to me, in the dirt and roots at the base of the tree. "You know, aboard the *Trick*, they called me Runnyguts—I threw up every hour for my first month. I was more reliable than the Watch! But they didn't mean anything by it. When you live with a crew for years, you become a different person. We'd be out at sea, nothing but water as far as the eye could see, and we'd be

playing cards on deck. We'd told each other every joke we knew already, and every story about home, and we knew that deck of cards so well, which one had salt-water stains on the back and which one turned up at a corner and which one had been torn, and we'd just scream at the Sun, so bored! But then we'd put in to port at some foreign city, and we'd come down the plank in our best clothes, 20 men who knew each other better than brothers, hard and brown from months at sea, and it felt like whatever happened in that strange port-of-call, we'd come out on top."

"And then I came back to Frisco, and the Captain shook my hand and gave me a sack of gold and saw me off, and I'd never felt so alone, and I'd never seen a place so foreign."

"I went back to my old haunts, the saloons where I'd gone for a beer after a day's work at the docks, and the dance halls, and the theaters, and I saw my old chums. That was hard, James."

He stopped then. I found myself saying, "How was it hard, Mr. Adelson?"

He looked surprised, like he'd forgotten that he was talking to me. "Well, James, it's like this: When you're away that long, you get to invent yourself all over again. Of course, everyone invents themselves as they grow up. Your chums there—" he gestured at the boys, who were now trying, with varying success, to turn somersaults, dirtying their school clothes—"they're inventing themselves right now, whether they know it or not. The smart one, the strong one, the brave one, the sad one. It's going on while we watch!"

"But when you go away, nobody knows you, and you can be whoever you want. You can shed your old skin and grow a new one. When we put out to sea, I was just a youngster, 18 years old and fresh from my Pa's house. He was a cablecar engineer and wanted me to follow in his shoes, get an apprenticeship and join him there under the hills, oiling the giant pulleys. But no, not me! I wanted to put out to sea and see the world. I'd never been out of the city, can you believe that? The first port where I took shore leave was in Haiti, and when I stepped onto the dock, it was like my life was starting all over again. I got a tattoo, and I drank hard liquor, and gambled in the saloons, and did all the things that a man did, as far as I was concerned." He had a faraway look now, staring at the boys' game without seeing it. "And when I got back on board, sick and tired and broke, there was a new kid there, a negro from Port-au-Prince who'd signed on to be a cabin boy. His name was Jean-Paul, and he didn't speak a word of English and I didn't speak a word of French. But I took him under my wing, James, and acted like I'd been at sea all my life, and showed him the ropes, and taught him to play cards, and bossed him around, and taught him English, one word at a time."

"And that became the new me. Every time a new hand signed on, I would be his teacher, his mentor, his guide."

"And then I came home."

"As far as the folks back home were concerned, I was the kid they'd said good-bye to five years before. My father thought I was still a kid, even though I'd fought pirates and weathered storms. My chums wanted me to be the kid I'd been, and do all the boring, kid things we'd done before I left—riding the trolleys, watching the vaudeville shows, fishing off the docks."

"Even though that stuff was still fun, it wasn't *me*, not anymore. I missed the old me, and felt him slipping away. So, you know what I did?"

"You moved to New Jerusalem?"

"I moved to New Jerusalem. Well, to Salt Lake City, first. I studied with the Jesuits, to be a teacher, then I saw an ad for a teacher in the paper, and I packed my bag and caught the next train. And here I am, not the me that came home from sea, and not the me who I was before I went to sea, but someone in between, a new me—teaching, but on dry land, and not chasing dangerous adventures, but still reading my old log-book and smiling."

We sat for a moment, in companionable silence. Then, abruptly, he checked his pocket watch and yelped. "Damn! Lunch was over 20 minutes ago!" He leaped to his feet, as smoothly as a boy, and ran into the schoolhouse to ring the bell.

I folded up the waxed paper and thought about this adult who talked to me like an adult, who didn't worry about swearing, or telling me about his adventures, and I made my way back to class.

It went better, the rest of that day.

IN '75, PA HAD ALMOST NEVER BEEN HOME, BUT HIS PRESENCE WAS always around us.

I'd call the robotler out of its closet and have it affix its electrode fingertips to my temples and juice my endorphins after a hard day at school, and when I was done, the faint smell of Pa's hair oil, picked up from the 'todes and impossible to be rid of, would cling to me. Or I'd sit down on the oubliette and find one of Pa's journals from back home, well thumbed and open to an article on mental telepathy. We did ESP in school, and it was all about a race of alien traders who communicated in geometric thought pictures that took forever to translate. We'd never learned about Magnetism and Astral Projection and all the other things Pa's journals were full of.

And while I never doubted the things in Pa's journals, I never brought them up in class, neither. There were lots of different kinds of truth.

"James?"

"Yes, Mama?" I said, on my way out to chop kindling.

"Did you finish your homework?"

"Yes, Mama."

"Good boy."

Homework had been some math, and some biology, and some geology. I'd done it before I left school.

The report cards came out in the middle of December. Mr. Adelson sealed them with wax in thick brown envelopes and handed them out at the end of the day. Sealing them was a dirty trick—it meant a boy would have to go home not knowing whether to expect a whipping or an extra slice of pie, and the fellows were as nervous as long-tailed cats in a rocking-chair factory when class let out. For once, there was no horseplay afterward.

I came home and tossed the envelope on the kitchen table without a moment's worry. I'd aced every test, I'd done every take-home assignment, I'd led the class, in a bored, sleepy way, regurgitating the things they'd stuck in my brain in 1975.

I went up to the attic and started reading one of Pa's adventure stories, *Tarzan of the Apes*, by the Frenchman, Jules Verne. Pa had all of Verne's books, each of them crisply autographed on the inside cover. He'd met Verne on one of his diplomatic missions, and the two had been like two peas in a pod, to hear him tell of it—they both subscribed to all the same crazy journals.

I was reading my favorite part, where Tarzan meets the man in the balloon, when Mama's voice called from downstairs. "James Arthur Nicholson! Get your behind down here *now*!"

I jumped like I was stung and rattled down the attic stairs so fast I nearly broke my neck and then down into the parlor, where Mama was holding my report card and looking fit to bust.

"Yes, Mama?" I said. "What is it?"

She handed me the report card and folded her arms over her chest. "Explain that, mister. Make it good."

I read the card and my eyes nearly jumped out of my head. The rotten so-and-so had given me Fs all the way down, in every subject. Below, in his seaman's hand, he'd written, "James's performance this semester has disappointed me gravely. I would like it very much if I could meet with you and he, Mrs. Nicholson, at your earliest convenience, to discuss his future at the Academy. Signed, Rbt. Adelson."

Mama grabbed my ear and twisted. I howled and dropped the card. Before I knew what was happening, she had me over her knee and was paddling my bottom with her open hand, hard.

"I don't"—whack—"know *what*"—whack—"you think"—whack—"you're doing, James."—whack—"If your *father*"—whack, *whack*—"were here,"—whack—"he'd switch you"—whack—"within an inch of your life." And she gave me a load more whacks.

I was too stunned even to cry or howl. Pa had only beat me twice in all the time I'd known him. Mama had *never* beat me. My bottom ached distantly, and I felt tears come to my eyes.

"Well, what do you have to say for yourself?"

"Mama, it's a mistake—" I began.

"You're durn right!" she said.

"No, really! I did all my homework! I passed all the exams! I showed 'em to you! You saw 'em!" The unfairness of it made my heart hammer in time to the throbbing of my backside.

Mama's breath fumed angrily out of her nose. "You go straight to your room and *stay there*. We're going to see Mr. Adelson first thing tomorrow morning."

"What about my chores?" I said.

Mama sat back a little in her chair and let hint of a sardonic smile show on her face. "Yes, we are. Forgive my coming by unannounced."

"Oh, it's nothing."

Mr. Adelson drank more coffee. Mama smoothed her skirts. I kicked my feet against the rungs of my chair. Finally, it was too much for me. "What's the big idea, anyway?" I said, glaring daggers at him. "I don't deserve no F!"

"Any F," Mr. Adelson corrected. "Why don't you think so?"

"Well, because I did all my homework. I gave the right answers in class. I passed all the tests. It ain't fair!"

We had a session on sexual reproduction. ing off to low-gee bounceteria and renting

"Oh, don't worry about that. You'll have *plenty* of chores to do when I let you out."

I went to my room and stripped down, and lay on my tummy and cracked my window so the icy winter air blew over my backside. I cried a vale of tears, and rained down miserable, mean curses on everyone: Mama, Pa, and especially the lying, snaky, backstabbing Runnyguts Adelson.

Mama didn't get any less mad through the night, but when she came to my door at cock-crow, she seemed to be holding it in better. My throat and eyes were sore as sandpaper from crying, and Mama gave me exactly five minutes to wash up and dress before dragging me out to the horsebarn. She'd already hitched up our team and refused my hand when I tried to help her up.

I'd been angry and righteous when I woke, but seeing Mama's towering, barely controlled fury changed my mood to dire terror. I stared out at the trees and farms as we rode into town, feeling like a condemned man being taken to the gallows.

Mama pulled up out front of the Academy and marched me around back to the teacher's cottage. She rapped on the door and waited, blowing clouds of steam out of her nose into the frosty morning air.

Mr. Adelson answered the door in shirtsleeves and suspenders, unshaved and bleary. His hair, normally neatly oiled and slicked, stood out like frayed broom-straw. The muscles on his thin arms stood out like snakes. He blinked at us, standing on his doorstep. "Mrs. Nicholson!" he said.

"Mr. Adelson," my mother said. "We've come to discuss James's report card."

Mr. Adelson smoothed his hair back and stepped aside. "Please, come in. Can I offer you some coffee?"

"No, thank you," Mama said, primly, standing in his foyer. He held out his hand for her coat and kerchief and she handed them to him. I took off my coat and struggled out of my boots. He took them both and put them away in a closet.

"I'm going to have some coffee. Are you sure I can't offer you a cup?"

"No. Thank you, all the same."

"As you wish." He disappeared down the dark hallway, and Mama and I found our way into his tiny parlor. Books were stacked every which where, dusty and precarious. Mama and I sat down in a pair of cushioned chairs, and Mr. Adelson came in, holding two mugs of coffee. He set one down next to Mama on the floor, then smacked himself in the forehead. "You said no, didn't you? Sorry, I'm not quite awake yet. Well, leave it there—there's cream in it, maybe the cat will have some."

He settled himself onto another chair and sipped at his coffee. "Let's start over, shall we? Hello, Mrs. Nicholson. Hello, James. I understand you're here to discuss James's report card."

"Not fair," my Mama corrected, gently. She was staring distractedly at Mr. Adelson.

"What you say is true enough, James. What grade do you suppose you should've gotten?"

"Why, an A! An A-plus! Perfect!" I said, glaring again at him, daring him to say otherwise.

"Is that what an A-plus is for, James? Perfection?"

"Sure," I said, opening my mouth without thinking.

Mama shifted her stare to me. She was looking even more thoughtful.

"Why do you suppose you go to school?"

"Cause Mama says I have to," I said, sullenly.

"James!" Mama said.

"Oh, I suppose it's to learn things," I said.

Mr. Adelson smiled and nodded, the way he did when one of the students got the right answer in class. "Well?"

"Well, what?" I said.

"What did you learn this semester?"

"Why, everything you taught! Geometry! Algebra! Latin! Geography! Biology! Physics! Grammar!"

"I see," he said. "James, what's the formula for determining the constant in the second derivative of an equation?"

I knew that one: It was one of Newton's dirty calculus proofs. "It's a trick question. There's no way to get the constant of second derivative."

"Exactly right," he said.

"Yes," I said, and folded my arms across my chest.

"Where did you learn that?"

"In—" I started to say 1975, but caught myself. "In France."

"Yes."

"Yes," I said. The fingers of dawn crept across my comprehension. "Oh."

Mama smiled at me.

"But it's not fair! So what if I already knew everything before I started? I still did all the work."

"Why are you in school, James?" Mr. Nicholson asked me again.

"To learn."

"Well, then I think you'd better start learning something, don't you? You're the brightest student in the class. You're certainly smarter than I am—I'm just an old sailor struggling along with the rest of the class. But you, you've *got it*. You've been marking time in class all semester, and I daresay you haven't learned a single thing since you started. That's why you got Fs."

"Mr. Adelson," Mama said. "Am I to understand that James performed all his assignments satisfactorily?"

It was Mr. Adelson's turn to squirm. "Yes, but madam, you have to understand—"

Mama waved aside his objections. "If James satisfactorily completed all the work assigned to him, then I think he should have a grade that reflects that, don't you?" She took a sip of her coffee.

"Yes, well—"

"However, you do have a point. I didn't send my son to your school so that he could mark time, as you put it. I sent him there to learn. To be *taught*. Have you taught him anything, Mr. Adelson?"

Mr. Adelson looked so all-fired sad, I forgave him the report card and spoke up. "Yes, Mama."

Mama swiveled her head to me. "Really?"

"Yes. He taught me what I was at school for. Just now."

"I see," Mama said. "This is very good coffee, Mr. Adelson."

"Thank you," he said, and sipped at his.

I put away my papers and changed into my Sunday clothes. I'd been hinting to Mama lately that a boy just wasn't complete without a puppy, so I put an extra shine on my shoes and said a quick prayer that I wouldn't find socks and picture books under the tree.

Mr. Johnstone arrived with a double-armload of gifts. Well, he *did* run my Pa's store, after all, so he could get things wholesale. I took his parcels from him and set them under the tree. Then that dandified sissy actually *kissed* my Mama on the cheek, lifting a sprig of mistletoe up with one hand. When Pa and Mama stood together, she'd barely come up to his shoulder, while Mr. Johnstone had to

Most of the kids were in couples, sneak-private cubes with untraceable cash tokens.

"James," Mr. Adelson said. "You've learned your first lesson. What do you propose your second should be?"

"I dunno," I said, and went back to kicking the rungs of the chair.

"What is it that you have been doing since you came back to town, son?" he asked.

"Hanging around in the attic, mostly. Reading. Tinkering. Like my Pa."

"My husband's machines and journals are up there," Mama explained.

"And his books," I said.

"Books?" Mr. Adelson looked suddenly interested. "What kind of books?"

"Adventure stories. Stevenson. Wells. Some of it's in French. We have all of Verne."

"Well, perhaps that can be your next assignment. I would like to see an original composition of no less than 20 pages, discussing each work of Verne's, charting his literary progress. Due January 5, please."

"Twenty pages!" I said. "But it's the holidays!"

"Very well. Whatever length the piece turns out is fine. But be sure you do justice to each work."

By the time I got through with the assignment, it was thirty-eight pages long. I never thought I could write that much but it kept on coming, new thoughts about each book, each scene, the different worlds Verne had built: the fantastic slopes of Barsoom, the sinister Island of Dr. Moreau ... each one spawned a new insight. I felt like Verne's detective, Sherlock Holmes, assembling all of the seemingly insignificant details into some kind of coherent picture, finding the improbable links between the wildly different stories the Frenchman told.

Mama was thrilled to see me working, papers spread out all around me on the kitchen table—I could've used Pa's study, but it felt like an invasion, somehow—writing until my wrists cramped. She let me get away without doing my chores, rising early to milk the cow, bringing in the eggs from the henhouse, even chopping the kindling. Just so long as I was writing, she was happy to let me go on shirking my responsibilities.

Even on Christmas Eve, I was too distracted to really enjoy the smells of goose and ham and the stuffing Mama spent days preparing. I was still writing when she told me to go change and set the table for three.

"We're having Mr. Johnstone to dinner," she said.

I made a face. Mr. Johnstone was the only one in town that I could have talked to about my time in 1975, but I never did. He had a way of bossing a fellow around while seeming to be nice to him. He still ran Pa's store, using ladders to reach the high shelves that Pa had just plucked things off. I had to see him when Mama sent me on errands there, but I made sure that I left as quickly as I could. Mama kept saying that I should ask him for a job, but I was pretty good at changing the subject whenever it came up.

stand on tiptoe to get the mistletoe over their heads. "Merry Christmas, Ulla," he said.

She took his hands and said, "Merry Christmas, James."

I wanted to be sick.

MR. JOHNSTONE HAD A WHISKEY IN OUR PARLOR BEFORE WE ATE, sitting in my Pa's chair, smoking a cigar from my Pa's humidor. Mama ordered me to keep him company while she set out the meal.

"Do they call you Jimmy?" he asked me, staring down his long, pointy nose.

"No, sir. James."

"It's a fine name, isn't it? Served me well, man and boy." He made a face that was supposed to be funny, like he'd bit into a lemon.

"I like it fine, sir."

"Are you having any problems adjusting, now that you're home? Finding it hard to relate to the other fellows?"

"No, sir."

"You don't find it strange, after seeing 1975?"

"No, sir. It's home."

"Ha!" he said, as though I'd said something profound. "I guess it is, at that. Say, why don't you come by the store sometime? I just got some samples from a new candy company in Oregon, and I need to get an unbiased opinion before I order." He gave me a pinched smile, like he thought he was Santa Claus.

"Mama doesn't like me eating sweets," I said, and stared at my reflection in my shoes.

Mama rescued me by coming into the parlor then, looking young and pretty in her best dress. "Dinner is served, gentlemen."

We followed her into the dining room, and Mr. Johnstone took my Pa's seat at the head of the table and carved the goose. Even though the bird was brown and juicy, I found I didn't have any appetite.

"I have word from Pondicherry," Mr. Johnstone said, as he poured gravy over his second helping of mashed potatoes.

"Yes?" Mama said.

"Who's he?" I asked.

"Your father's successor," Mr. Johnstone said. "A British officer from New Delhi. A fat little man, and awfully full of himself."

I repressed a snort. For my money Mr. Johnstone was as full of himself as one man could be. I couldn't imagine a blacker kettle.

"He says that Nussbaum, from 1952 New York, has rolled back relations with extraterrestrials by 50 years. He sold a Centurian half a million defective umbrellas from his brother-in-law's factory. The New Yorkers are all defending him. *Caveat emptor*."

"I never could keep track of who was friendly and who wasn't," Mama said. "It was all Greek to me. Politics."

Mr. Johnstone opened his mouth to explain, but Mama held up one hand. "No, no, I don't *want* to understand. Les used to lecture me about this from dawn to dusk." She smiled a little sad smile and stared

off at the cabbage roses on our dining room walls. Mr. Johnstone put one hand over hers.

"He was a good man, Ulla."

Mama stood and smoothed her skirts. "I'll get dessert."

I DIDN'T GET A PUPPY. MR. JOHNSTONE GAVE ME AN AIR RIFLE THAT I was sure Mama would have fits over, but she just smiled. She gave me a beautiful fountain pen and a green blotter and a ream of creamy, thick paper.

The pen made the most beautiful, jet-black marks, and the paper drank it up like a thirsty man in the desert. I recopied my essay the next day, sitting with Mama in the parlor while she darned socks. Mr. Johnstone had given her a tin of cosmetics from Paris that he'd ordered in special. I'd heard Mama say that only dance hall girls wore makeup, but she blushed when he gave it to her. I gave her a carving I'd done, of the robotler we'd had in '75. I'd whittled it out of a block of pine, and sanded it and oiled it until it was as smooth as silk.

Oly Sweynsdatter came by after supper and asked if I wanted to go out and play with the fellows. To my surprise, I found I did. We had a grand afternoon pelting each other with snowballs, a game that turned into a full-scale war, as all the older boys back from high school came out and joined in, and then, later, all the men, even the Sheriff and Mr. Adelson. I never laughed so much in all my life, even when I got one right in the ear.

Mr. Adelson led a charge of adults against the fort that most of the Academy boys were hiding behind, but I saw him planning it and started laying in ammunition long before they made their go, and we sent them back with their tails between their legs. I hit him smack in the behind with one ball as he dove for cover.

Oly's mother gave us both good, Svenska hot cocoa afterward, with fresh whipped cream, and Oly and I exchanged gifts. He gave me a tin soldier, the Confederate who was caught in the act of falling over backward, clutching his chest. I gave him my best marble. We followed his mother around their house, recounting the adventures in the snow until she told me it was time for me to go home.

School started again, and I went in early the first day to turn in my paper. Mr. Adelson took it without comment and scanned the first few paragraphs. "Thank you, James, I think this will do nicely. I'll have it graded for you in the afternoon."

I met Oly out in the orchard, where he was chopping kindling for the school's stove, a job we all took turns at. "I hear you might be getting a new Pa for Christmas," he said. He gave me a smile that meant something, but I couldn't guess what.

"What is that supposed to mean?" I asked.

"My Mama says your Mama had old man Johnstone over for Christmas dinner. And the widow Ott told my Mama that she'd connected one or two calls between your house and the store every day in the last month. My Mama says that Johnstone is courting your Mama."

"Mrs. Ott isn't supposed to talk about the calls she connects," I said, as my mind reeled. "It's like a telegraph operator: It's a confidential trust." Mr. Adelson had told me that, once when he was telling me stories about his life before he went to sea.

"So, is it true?"

"No!" I said, surprising myself with my vehemence. "My Mama just didn't want him to be alone at Christmas."

Oly swung the axe a few more times. "Well, sure. But what about all the telephone calls?"

"That's business. The store is still partly ours. Mama's just looking after our interests."

"If you say so," he said.

I shoved him hard. I drew a line in the snow with my toe. "I *do* say so. Step across the line if you say otherwise!"

Oly got to his feet and looked at me. "I don't want to fight with you, James. I was just tellin' you what my Mama said."

"Well, your Mama ought to mind her own business," I said, baiting him.

That did it. He stepped over and popped me one, right in the nose. Oly and I had been chums since we could walk, and we'd had a few fights in our days but this time it was different. I was so *angry* at him, at my Mama, at my Pa, at New Jerusalem, and we just kept on swinging at each other until Mr. Adelson came out to ring the bell and separated us. My nose was sore and I was limping, and I'd torn Oly's jacket and bent his fingers back, so he cradled his hand in the crook of his arm.

"Boys!" Mr. Adelson said. "What the hell do you think you're doing? You're supposed to be friends."

His language shocked me, but I was still plenty angry. "He's no friend of mine!" I said.

"That's fine with me," Oly said and glared at me.

The other kids were milling around, and Mr. Adelson gave us both a look that could melt steel, then rang the bell.

I COULD HARDLY CONCENTRATE IN CLASS THAT DAY. MY MAMA GET-ting married? A new Pa? It couldn't be true. But in my mind, I kept seeing my Mama and that Johnstone kissing under the mistletoe, and him sitting in my Pa's chair, drinking his whiskey.

Oly's desk was next to mine, and he kept shooting me dirty looks. Finally, I leaned over and whispered, "Cut it out, you idiot."

Oly said, "You're the idiot. I think you got your brains scrambled in France, James."

"I'll scramble your brains!"

"Gentlemen," said Mr. Adelson. "Do you have something you'd like to share with the class?"

"No sir," we said together, and exchanged glares.

"James, perhaps you'd like to come up to the front and finish the lesson?"

"Sir?" I said, looking at the blackboard. He'd been going through quadratics, an elaborate first-principles proof.

"I believe you know this already, don't you? Come up to the front and finish the lesson."

Slowly, I got up from my desk, leaving my slate on my desk, and made my way up to the front. Some of the kids giggled. I picked up a piece of chalk from the chalk well, and started to write on the board.

Mr. Adelson walked back to my seat and sat down. I stopped and looked over my shoulder, and he gave me a little scooting gesture that meant go on. I did, and by the end of the hour, I found that I was enjoying myself. I stopped frequently for questions, and erased the board over and over again, filling it with steady columns of numbers and equations. I stopped noticing Mr. Adelson in my seat, and when he stood and thanked me and told us we could eat our lunches, it seemed like no time at all had passed.

Mr. Adelson looked up from my essay. "James, I'd like to have a chat with you. Stay behind, please."

"Sit," he said, offering me the chair at his desk. He sat on one of the front-row desks, and stared at me for a long moment.

"What was that mess this morning all about, James?" he asked.

"Oly and I had an argument," I said, sullenly.

"I could see that. What was it about, if you don't mind my asking?"

"He said something about my Mama," I said.

"I see," he said. "Well, having met your mother, I feel confident in saying that she's more than capable of defending herself. Am I right?"

"Yes, sir," I said.

"Then we won't see a repeat?"

"No, sir," I said. I didn't plan on talking to Oly ever again.

"Then we'll say no more about it. Now, about this morning's lesson: You did very well."

"It was a dirty trick," I said.

He grinned like a pirate. "I suppose it was. I wouldn't have played it on you if I didn't have every confidence in your abilities, though." He leaned across and picked up my essay from his desk. "It was this that convinced me, really. This is as good as anything I've seen in scholarly journals. I've half a mind to send it to the *Idler*."

"I'm just a kid!"

"You're an extraordinary boy. I'm tempted to let you teach all the classes, and take up whittling."

1975 was a queer sight. Our apartment was a lozenge of silver, spoked into the hub of a floating null-gee donut. Pa did something fancy with his hands and the walls went transparent.

He said it so deadpan, I couldn't tell if he was kidding me. "Oh, you can't do that! I'm not nearly ready to take over."

He laughed. "You're readier than you think, but I expect the town council would stop my salary unless I did *some* of the work around here. Still, I think that's the most active I've seen you since you came to my class, and I'm running out of ideas to keep you busy. Maybe I'll keep you teaching maths. I'll give you my lesson plan to take home before school's out."

"Yes, sir."

MR. ADELSON GAVE ME A STACK OF PAPERS TIED UP WITH TWINE after he dismissed the class for the day. I went home and did my chores, then unwrapped the parcel in the parlor. The lesson plans were there, laid out, day by day, and in the center of them was a smaller parcel, wrapped in colored paper. "Merry Christmas," was written across it, in his hand.

I opened it and found a slim book. *War of the Worlds*, by Verne. For some reason, it rang a bell. I thought that maybe it had been on our bookcase in '75, but somehow, it hadn't made it back home with us. I opened it, and read the inscription he'd written: "From one traveler to another, Merry Christmas."

I forced myself to read the lesson plans for the next month before I allowed myself to start the Verne, and once I started, I found I couldn't stop. Mama had to drag me away for dinner.

My trip back to 1975 wasn't planned, but it wasn't an accident, either. We'd gotten a new load of hay in for our team, and Mama added stacking it in the horsebarn to my chores. I'd been consciously avoiding the horsebarn since Pa had disappeared. Every time I looked at it, I felt a little hexed, a little frightened.

But Mama had a philosophy: A boy should face up to his fears. She'd been terrified of spiders when she was a girl, and she told me that she had made a point of picking up every spider she saw and letting it crawl around on her face. After a year of that, she said, she never met a spider that frightened her.

Mama had been sending me to the store more and more, too, and having Mr. Johnstone over for dinner every Friday night. She knew I didn't like him one little bit, and she said that I would just have to learn to live with what I didn't like, and if that was the only thing I learned from her, it would be enough.

I preferred the horsebarn.

I worked close to the door the first day, which is no way to do it, of course. If you blocked the door, it just made it harder to get at the back when the time came. The way to do it is to first clear out whatever hay is left over, move it out to the pasture, and then fill in from the back forward.

Mama told me so, that first night, when she came out to inspect my work. "You sure must love working out here," she said. "If you do it that way, you'll be out here stacking for twice as long. Well, you have your fun, but I still expect you to be getting your homework and regular chores done. Come in and clean up for supper now."

I jammed the pitchfork into a bale and washed for supper.

The next afternoon, I resolved to do it right. I moved the bales I'd stacked up by the door to a corner, and then started cleaning out the back. Before long, I'd uncovered the door into 1975. "James," Mama called, from the house. "Dinner!"

I took a long look at the door. The wood on the edges had aged to the silvery-brown of the rest of the barn-boards, and it looked like it had been there forever. I could hardly remember a time when it wasn't there.

I went in for supper.

The next morning, I picked up my lunch and my schoolbooks, kissed Mama good-bye, and walked out. I stood on our porch for a long time, staring at the horsebarn. I remembered the brave explorers in Verne's books. I looked over my shoulder, at the closed door of our house, then walked slowly to the horsebarn. I swung the door open, then walked to the back. The triple-bolts had rusted somewhat and took real shoving to slide back. One of them was stubborn, so I picked up the rake and pried it back with the handle, thinking of how ingenious that was.

I gave the door my shoulder and shoved, and it swung back, complaining on its hinges. On the other side was the still-familiar dark of our 1975 apartment. I stepped into it, and closed the door behind me.

"Lights," I said, and they came on.

The old place was just like the day we left it. It wasn't even dusty, and as I heard the familiar trundle of the robotler, I knew why. My Pa's easy chair sat in the parlor, with a printout of the day's *Salt Lake City Bugler* folded on the side table. I walked to one wall and laid my palm against it, the familiar cool glassy stuff it was made of. "Window," I said, and wiped a line across the wall. Wherever my hand wiped went transparent. It was a sunny day in 1975—1980, by then, but it would be '75 in my mind forever. Under the dome, Greater Salt Lake was warm and tranquil. I saw boys my age scooting around in jet-packs, dodging hover-traffic.

Pa liked to open a big, square window when he came home, and sit in his easy chair and smoke a stinky cigar and read the paper and cluck over it—"Well, well, well," he'd say, and "How about that?" Sometimes, he'd have a tumbler of whiskey. He'd given me some, once, and the stuff had burned like turpentine and I swore I wouldn't try it again for a long, long time.

I sat in Pa's easy chair and snapped up the newspaper, the way he used to. "Panorama," I said, and Pa's square window opened before me. "Whiskey," I said, and "Cigar," because I was never one for half-measures. The robotler trundled over to me with a tumbler and a White Owl in its hover-field. I plucked them out. Cautiously, I put the cigar between my lips. The robotler extruded a long, snaky arm with a flame, and lit it. I took a deep puff, and coughed convulsively. Unthinking, I took a gulp of whiskey. I felt like my lungs had turned inside out.

I finished both the whiskey and the cigar before I got up, taking cautious puffs and tiny sips, forcing myself.

My head swam, and nausea nearly drowned me. I staggered into the WC, and hung my head in the oubliette for an eternity, but nothing

was coming up. I moved into my old bedroom and splayed out on my bed, watching the ceiling spin. "Lights," I managed to croak, and the room went dark.

When I woke in the morning, the walls were at half-opacity, the normal 0700 schedule, and I dragged myself out of bed.

The robutler had extruded the table and set out my breakfast, ham and eggs and a big bulb of milk. One look at it sent me over the edge, and I left a trail of vomit all the way to the WC.

When I was done, I was as wrung-out as a washcloth. My head pounded. The robutler was quietly cleaning up my mess. I started to order it to clear away the breakfast, but discovered that I was miraculously hungry. I ate everything on the table and seconds, besides, and had the robutler juice my temples and clear away my headache. I dialed the walls to full transparency and watched the traffic go by.

The robutler maneuvered itself into my field of vision and flashed a clock on its chest-plate: 0800 0800 0800. It was my old school alarm. It snapped me back to reality. My Mama was going to whip me raw! She must've been worried sick.

I stood up and ran for the door. It was closed. I punched my code into its panel, and waited. Nothing happened. I calmed myself and punched it again. Still nothing. After trying it a hundred times, I convinced myself that it had been changed.

I summoned the robutler and asked it for the code. Its chest-panel lit up: BAD PROGRAM.

I felt like Sherlock Holmes.

That's when I started to really worry. I was near to tears when I remembered the emergency override. I punched it in.

Nothing happened.

I think I started crying around then. I was stuck in 1975!

I'M NOT A STUPID LITTLE KID. I DIDN'T SPEND MUCH TIME PEWLING. Instead, I went to the phone and dialed the police. The screen stayed blank. Feeling like I was in a dream, I went to the teleporter and dialed for my old school and stepped in. I failed to teleport.

Reality sank in.

All outside services to the apartment had been shut off when we moved out. The only things that still worked were the ones that ran off our reactor, a squat armored box on the apartment's underbelly. The door in New Jerusalem worked, but on the 1975 side, it needed to communicate with the central office to approve any passage.

I thought about sitting tight and waiting. Mama would be sick with worry and would check the barn eventually and see the shot bolts. She'd speak to Mr. Johnstone, who would send a telegram to Paris, and they would relay the message to 1975, and *voilà*, I'd be rescued. I'd get the whipping of my life, and do extra chores until I was 70, but it was better than starving to death after the apartment's pantry ran out. I felt hungry just thinking about it.

Still, there was a better way. The null-gee doughnut that our apartment was spoked into had a supply of escape-jumpers, single-use jet-packs with a simple transponder that screamed for help on all the emergency channels. I could ride one of these down into Greater Salt Lake, wait for the police. The more I thought about this plan, the better it sounded. Better, anyway, than sitting around like a fairytale princess, waiting for rescue. In my mind, I was the rescuing type, not the kind that needed rescuing.

Besides, there wasn't much better than riding around in one of those jet-packs.

I cycled the emergency lock into the doughnut, unracked a pack and a jumpsuit that looked like it would fit me, and suited up. The

packed whined as it powered up and ran through its diagnostics. I checked the idiot lights to make sure they were all green, feeling like a real man of action, then I stepped into the exterior lock and jumped, arms and legs streamlined, toes pointed.

The jet-pack coughed to life and kicked me gently, then started lowering me to the ground. The emergency beacon's idiot light came on, and I heaved a sigh of relief and got comfortable.

The flight was peaceful and dreamlike, a slow descent over the gleaming metal city. I was so engrossed with the view that I didn't see the packjackers until they were already on me. They hit me high and low, two kids about my age with tricked-out custom jet-packs with their traffic beacons broken off. One snagged my knees and hugged them to his chest, while the other took me at the armpits. A voice shouted in my ear: "I'm cutting your pack loose. This is a very, very sharp knife, and when I'm done, I'll be the only thing holding you up. *Don't squirm.*"

I didn't even have the chance to squirm. By the time the speech was finished, I was separated from my pack, and I spun over upside-down, and watched it continue its descent, straps dangling in the wind. My hair hung down, and blood filled my head, reawakening my headache. Reflexively, I twisted to get a look at my kidnappers, but stopped immediately as I felt their grips loosen. I squeezed my eyes shut and prayed.

The three of us dove fast and hard, and I tasted that second helping of breakfast again before we leveled off. I risked a peek, then squeezed my eyes shut again. We were speeding through the lower levels of Greater Salt Lake, the unmanned freight corridors, impossibly claustrophobic, and at our speed, dangerous.

We cornered tightly so many times that I lost count, and then we slowed to a stop. They dumped me to the ground, steel traction-plate. The wind was

knocked out of me, and I was barely conscious of the hands that untapped my jumpsuit, then began methodically turning out the pockets of my clothes.

"What the hell are you wearing, kid?" one of them asked. It was the same one who'd warned me about squirming. Hearing his voice a second time, I realized that he was younger than I was, maybe 10 or 11. Even then, it didn't occur to me to fight back—he had a knife sharp enough to cut through the safety strapping on my pack.

"Clothes. I'm from 1898—my Pa's an ambassador. I don't have any money." I struggled into a sitting position, and was knocked onto my back again.

"Stay down and you won't get hurt," the same voice said. It was young enough that I couldn't tell if it was a boy or a girl. Small hands pressed into my eyes. "No peeking, now."

Another set of hands systematically rifled my coat and pants, then cut them loose and gave the same treatment to my underpants and shirt. I blushed as they were cut loose, too.

"You really don't have any money!" the voice said.

"I said so, didn't I?"

The voice said a dirty word that would've gotten it beaten black-and-blue back home, and then the hands were gone. I looked up just in time to see two small figures jettisoning away upward.

I was naked, sitting on a catwalk above a freight corridor, three-quarters of a century and God-knew-how-many miles from home. I didn't cry. I was too worried to cry. I kicked my ruined clothes down into the freight corridor and pulled on the jumpsuit.

Some hero I was!

IT WAS HARD WORK, CLIMBING STAIRCASE AFTER STAIRCASE, UP TO the shopping levels. By the time I reached a level where I could see the sky, I was dripping with sweat and my headache had returned.

Foot traffic was light, but what there was was pretty frightening. I'd gone walking in '75 before, of course, but Greater Salt Lake was

a big place, and there were parts of it that an ambassador's son would never get to see.

This was one of them. The shopfronts were all iris-open airlocks, and had been painted around to look like surprised mouths, or eyes or, in one fascinating case, a woman's private parts. Mostly they were betting shops, or bars, or low-rent bounceterias. Even in 1975, the Saints had some influence in Salt Lake, and the bars and brothels were pretty shameful places, where no respectable person would be caught.

The other pedestrians on the street were mostly off-worlders, either spacers in uniform or extees. In some cases, it was hard to tell which was which.

I kind of slunk along, sticking to the walls, hands in my pockets. I kept my eyes down, except when I was looking around for a public phone. After several blocks, I realized that no one was paying any attention to me, and I took my hands out of my pockets. The Sun filtered down over me, warm through the big dome, and I realized that even though I'd gotten myself stuck in '75, been 'jacked, and left in the worst neighborhood in the whole state, I'd landed on my feet. The thought made me smile. Another kid, say Oly, wouldn't have coped nearly as well.

I still hadn't spied a public phone. I figured that the taprooms would have a phone, otherwise, how could a drunk call his wife and tell her he was going to be late coming home? I picked a bar whose airlock was painted to look like a brick tunnel and walked in.

The airlock irised shut behind me and I blinked in the gloom. My nose was assaulted with sickly sweet incense, and stale liquor, and cigar smoke.

The place was tiny, and crowded with dented metal tables and chairs that were bolted to the floorplates. A woman stood behind the bar, looking hard and brassy and cheap, watching a soap opera on her vid. A spacer sat in one corner, staring at his bulb of beer.

The bartender looked up. "Get lost, kid," she said. "No minors allowed."

"Sorry, ma'am," I said. "I just wanted to use your telephone. I was packjacked, and I need to call the police."

The bartender turned back to her soap opera. "Go peddle it somewhere else, sonny. The phone's for customers only."

"Please," I said. "My father's an ambassador, from 1898? I don't have any money, and I'm stuck here. I won't be a minute."

The spacer looked up from his drink. "Get lost, the lady said," he slurred at me.

"I'll buy something," I said.

"You just said you don't have any money," the bartender said.

"Thank you, sir," I said, politely.

The bartender switched her vid over to phone mode, poured me a Coke, and handed me the vid.

The policeman who showed up a few minutes later stuck me in the back of his cruiser, listened to my story, scanned my retinas, confirmed my identity, and retracted the armor between the back and front seats.

"I'll take you to the station house," he said. "We'll contact your embassy, let them handle it from there."

"What about the kids who 'jacked me?" I asked.

The cop turned the jetcar's conn over to wire-fly mode and turned around. "You got any description?"

"Well, they had really nice packs on, with the traffic beacons snapped off. One was red, and I think the other was green. And they were young. Ten or eleven."

The cop punched at his screen. "Kid," he said, "I got over three million minors eight to eleven, flying packs less than a year old. The most popular color is red. Second choice, green. Where would you like me to start? Alphabetically?"

"Sorry, sir, I didn't realize."

"Sure," he said. "Whatever."

"I guess I'm not thinking very clearly. It's been a long day."

The cop looked over to me and smiled. "I guess it has, at that. Don't worry, kid, we'll get you home all right."

THEY GAVE ME A FRESH JUMPSUIT, SAT ME ON A BENCH, CALLED THE embassy, and forgot about me. A long, boring time later, a fat man with walrus moustaches and ruddy skin showed up.

"On your feet, lad," he said. "I'm Pondicherry, your father's successor. You've made quite a mess of things, haven't you?" He had a clipped, British accent, with a hint of something else. I remembered Mr. Johnstone saying he'd been in India. He wore a standard unisex jumpsuit, with his ambassadorial sash on top of it. He looked ridiculous.

"Sorry to have disturbed you, sir," I said.

"I'm sure you are," he said. "Come along, we'll see about fixing this mess."

He used the station's teleporter to take me to his apartment. It was as ridiculous as his uniform, and in the same way. He'd taken the basic elegant simplicity of a standard 1975 unit and draped all kinds of silly trophies and models overtop of it: lions' heads and sabers and model ships and framed medals and savage masks and dolls.

When you live with a crew for years, you become a different person.

"I'll pay for it when the police get here. The embassy will cover it."

"No credit," she said.

"You're not going to let me use your phone?" I said.

"That's right," she said, still staring at her vid.

"I'm a stranger, an ambassador's son, who's been robbed. A kid. Stuck here, broke and alone, and you won't let me use your phone to call the police?"

"That's about the size of things," she said.

"Well, I guess my Pa was right. The whole world went to hell after 1914. No manners, no human decency."

"You're breaking my heart," she said.

"Fine. Be that way. Send me back out on the street, deny me a favor that won't cost you one red cent, just because I'm a stranger."

"Shut up, kid, for chrissakes," the spacer said. "I'll stand him to a Coke, if that's what it takes. Just let him use the phone and get out of here. He's giving me a headache."

"You may look, but not touch, do you understand me?" he said, as we stepped out of the teleporter.

"Yes, sir," I said. If anyone else had said it, I would have been offended, but coming from this puffed-up pigeon, it didn't sting much.

He went to a vid and punched impatiently at the screen while I prowled the apartment. The bookcase was full of old friends, books by the Frenchman, of course, and more, with strange names like Wells and Burroughs and Shelley. I looked over a long, stone-headed spear, and the curve of an elephant's tusk, and a collection of campaign ribbons and medals under glass. I returned to the bookcase: Something had been bothering me. There, there it was: *War of the Worlds*, the book that Mr. Adelson had given me for Christmas. But there was something wrong with the spine of this one: instead of *Jules Verne*, the author name was *H.G. Wells*. I snuck a look over my shoulder; Pondicherry was still stabbing at the screen. I snuck the book off the shelf and turned to the title

page: "War of the Worlds, by Herbert George Wells." I turned to the first chapter:

The Eve of the War

No one would have believed in the last years of the nineteenth century that this world was being watched keenly and closely by intelligences greater than man's and yet as mortal as his own; that as men busied themselves about their various concerns they were scrutinised and studied, perhaps almost as narrowly as a man with a microscope might scrutinise the transient creatures that swarm and multiply in a drop of water.

It was just as I remembered it, every word, just as it was in the Verne. I couldn't begin to explain it.

A robotler swung out of its niche with a sheaf of papers. I startled at the noise, then reflexively stuck the book in my jumpsuit. The robotler delivered the papers to Pondicherry, who stuffed them in a briefcase.

"The embassy will be able to return you home by courier route in three hours. Unfortunately, I don't have the luxury of waiting around here until then. I have an important meeting to attend—you'll have to come along."

"Yes, sir," I said, trying to sound eager and helpful.

"Don't say anything, don't touch anything. This is very sensitive."

"No, sir, I won't. Thank you, sir."

The meeting was in a private room in a fancy restaurant, one that I'd been to before for an embassy Christmas party. Mama had drank two glasses of sherry, and had flushed right to the neck of her dress. We'd had roast beef, and a goose wrapped inside a huge squash, the size of a barrel, like they grew on the Moon.

Pondicherry whisked through the lobby, and the main dining room, and then up a narrow set of stairs, without checking to see if I was following. I dawdled a little, remembering Pa laughing and raising his glass in toast after toast.

I caught up with Pondicherry just as he was ordering, speaking brusquely into the table. Another man sat opposite him. Pondicherry looked up at me and said, "Have you dined, boy?"

"No, sir."

He ordered me a plate of calf livers in cream sauce, which is about the worst thing you can feed a boy, if you ask me, which he didn't. "Sit down," he said. "Mr. Nussbaum, Master James Nicholson. I am temporarily *in loco parentis*, until he can be sent home."

Nussbaum smiled and extended his hand. He was wearing a gray suit, with a strange cut, and a black tie. His fingers dripped with heavy

not be as good as the stuff from home." He thumbed the table. "Sweetie, send up the biggest piece of chocolate cake you got down there, and a glass a milk, willya?"

The table acknowledged his request with a soft green light.

"Thank you, sir," I said.

"That's quite enough, I think," Pondicherry said. "I didn't come here to watch you rot young James's teeth. Can we get to business?"

Pondicherry started talking, in rapid, clipped sentences, punctuated by vicious bites of his food. I tried to follow what it was about—trading buffalo steaks for rare metals, I got that much, but not much more. The calves' livers were worse than I imagined, and I hid as much of them as I could under the potatoes, then pushed the plate away and dug into the cake.

I sneaked a look up and saw that Nussbaum was grinning slyly at me. He hadn't said much, just ate calmly and waited for Pondicherry to run out of steam. He caught my eye and slipped a wink at me. I looked over at Pondicherry, who was noisily cuddling a piece of steak, oblivious, and winked back at Nussbaum.

Pondicherry dabbed at his mouth with his napkin. "Excuse me," he said, "I'll be right back." He stood and walked toward the WC.

Nussbaum suddenly jingled. Distractedly, he patted his pockets until he located a tiny phone. He flipped it open and grunted "Nussbaum," into it.

"Jules!" he said a moment later. "How're things?"

He scowled as he listened to the answer. "Now, you and I know that there's a difference between *smart* and *greedy*. I think it's a bad idea."

He listened some more and drummed his fingers on the table.

"Because it's not *credible*, dammit! Even the title is anachronistic: no one in 1902 is going to understand what *Neuromancer* means. Think about it, wouldya? Why don't you do some of Twain's stuff? Those books've got *legs*."

My jaw dropped. Nussbaum was talking to the Frenchman—and he was helping him to *cheat*! To steal from Mark Twain! I was suddenly conscious of *War of the Worlds*, down the front of my jumpsuit. I thought back to Mr. Adelson's assignment, and it all made sudden sense. Verne was a *plagiarist*.

Nussbaum hung up just as Pondicherry re-seated himself. He took a sip of his drink, then held up a hand. Pondicherry eyed him coldly.

"Look," Nussbaum said. "We've gone over this a few times, OK? I know where you stand. You know where I stand. We're not standing in the same place. Much as I enjoy your company, I don't really wanna spend the whole day listening to you repeating yourself. All right?"

"Really, I don't think—" Pondicherry started, but Nussbaum held up his hand again.

"That's all right, I'm a rude son of a bitch, and I know it. Let's just take it as read that you and me spent the whole afternoon letting the other fella know how sincere our positions are. Then we can move

My trip back to 1975 wasn't planned.

gold rings, and his hair, while short, still managed to look fancy and a little sissy-fied. "Good to meetcha, son. You Lester's boy?"

"Yes, sir, he was my Pa."

"Good man. A damned shame. What are you doing here? Playing hooky?"

"I guess I just got lost. I'm going home, soon as they can get me there."

"Is that so? Well, I'll be sad to see you go. You look like a smart kid. You like chocolate cake, I bet."

"Sometimes," I said.

"Like when?"

"When my mama makes it, with a glass of milk, after school," I said.

He laughed, a strangled har-har-har. "You guys kill me. Your mama, huh? Well, they make some fine chocolate cake here, though it may

onto cocktails, and compromise, and maybe have some of the day left over." Pondicherry started to talk again, but Nussbaum plowed over him. "I'll go to six troy ounces per steer. You won't get a better offer. 98 percent pure ores. Better than anything you'd ever refine back home. It's as far as I go."

"Sir, is that an ultimatum?" Pondicherry asked, his eyes narrowing.

"Call it whatever you please, buster. It's my final, iron-clad offer. You don't like it, I can talk to the Chinaman. He seemed pretty eager to get some good metal home to the emperor."

"You wouldn't—he's too far back, it would violate the protocols."

"That's what you say. It may be what the trade court decides. I'll take my chances."

"Six-and-a-half ounces," Pondicherry said, in a spoiled-brat voice.

"You don't hear so good, do you? Six ounces is the offer on the table; take it or leave it." Nussbaum pushed some papers across the table.

Pondicherry stared at them for a long moment. "I will sign them, sir, but it is with the expectation of continued trade opportunities. This is a good-will gesture, do you understand?"

Nussbaum snorted and reached for his papers. "This is about steaks and metals. This isn't about the future, it's about today, now. That's what's on the table. You can sign it, or you can walk away."

Pondicherry blew air out his nose like a crazy horse, and signed. "If you'll excuse me, I need to use the WC again." He rose and left the room, purple from the collar up.

"What a maroon," Nussbaum said to the closed door. "This's gotta be a real blast for you, huh?" he said.

I grinned. "It's not so bad. I liked watchin' you hogtie him."

He laughed. "I never would've tried that on your father, kid. He was too sharp. But fatso there, he's terrified the Chinaman will give the Middle Kingdom an edge when it faces down his Royal Navy. All it takes is the slightest hint, and he folds like a cheap suit."

That made me chuckle—a cheap suit!

I gave him my best innocent look. "Who else knows about the Frenchman?" I asked him.

Nussbaum grinned like he'd been caught with his hand in the cookie jar. "I realized about halfway through that conversation that being Lester's boy, you've probably read just about every word old Jules 'wrote.'"

"I have," I said. I took out *War of the Worlds*. "How does Mr. Wells feel about this?" I asked.

"I imagine he's pretty mystified," Nussbaum said. "Would you believe, you're the first one who's caught on?"

I believed it. I knew enough to know that the agencies that policed the protocols had their hands full keeping track of art and gold smugglers. I'd never even thought of smuggling *words*. If the trade courts found out ... well, hardly a week went by that someone didn't propose shutting down the ambassadorships; they'd talk about how the future kept on leaking pastwards, and if we thought 1975 looked bad, imagine life in 1492 once the future reached it! The ambassadors had made a lot of friends in high places, though: they used their influence to keep things on an even keel.

Nussbaum raised an eyebrow and studied me. "I think your father may've figured it out, but he kept it to himself. He and Jules got along like a house on fire."

I kept the innocent look on my face. "Well, then," I said. "If Pa didn't say anything, you'd think that I wouldn't either, right?"

Nussbaum sighed and gave me a sheepish look. "I'd like to think so," he said.

I turned the book over in my hands, keeping my gaze locked with his. I was about to tell him that I'd keep it to myself, but at the last minute, some instinct told me to keep my mouth shut.

Nussbaum shrugged as though to say, *I give up*. "Hey, you're headed home today, right?" he said, carefully.

"Yes, sir."

"I've got a message that you could maybe relay for me, you think?"

"I guess so ..." I said, doubtfully.

"I'll make it worth your while. It's got to go to a friend of mine in Frisco. There's no hurry—just make sure he gets it in the next 10 years or so. Once you deliver it, he'll take care of you—you'll be set for life."

"Gosh," I said, deadpan.

"Are you game?"

"I guess so. Sure." My heart skipped. Set for life!

"The man you want to speak to is Reddekop, he's the organist at the Castro Theater. Tell him: 'Nussbaum says get out by October 29th, 1929.' He'll know what it means. You got that?"

"Reddekop, Castro Theatre. October 29th, 1929."

"Exac-atac-ally." He slid *War of the Worlds* into his briefcase. "You're doin' me a hell of a favor, son."

He shook my hand. Pondicherry came back in then, and glared at me. "The embassy contacted me. They can set you at home six months after you left—there's a courier gateway this afternoon."

"Six months!" I said. "My Mama will go crazy! Can't you get me home any sooner?"

Pondicherry smirked. "Don't complain to me, boy. You dug this hole yourself. The next scheduled courier going anywhere near your departure point is in five years. We'll send notice to your mother then, to expect you home mid-July."

"Tough break, kiddo," Nussbaum said, and he shook my hand and slipped me another wink.

THE COURIER GATEWAY LET ME OUT IN AN ALLEYWAY IN SALT LAKE City. The embassy had given me 10 Wells Fargo dollars, and fitted me out with a pair of jeans and a workshirt that were both far too big for me, so that they slopped around me as I made my way to the train station and bought my ticket to New Jerusalem.

It was Wednesday, the normal schedule for the Zephyr Speedball, so I didn't have too long to wait at the station. I bought copies of the Salt Lake City *Shout* and the San Francisco *Chronicle* from a passing newsie. The *Chronicle* was a week old, but it was filled with all sorts of fascinating big-city gossip. I read it cover to cover on the long ride to New Jerusalem.

Mama met me at the train station. I'd been expecting a switching, right then and there, but instead she hugged me fiercely with tears in her eyes. I remembered that it had been over six months for her since I'd gone.

"James, you will be the death of me, I swear," she said, after she'd squeezed every last bit of stuffing out of me.

"I'm sorry, Mama," I said.

"We had to tell everyone you'd gone away to school in France," a familiar male voice said. I looked up and saw Mr. Johnstone standing a few yards away, with our team and trap. He was glaring at me. "I've had the barn gateway sealed permanently on both sides."

"I'm sorry, sir," I said. But inside, I wasn't. Even though I'd only been away for a few days, I'd had the adventure of a lifetime: smoked and drank and been 'jacked and escaped and received a secret message. My Mama seemed shorter to me, and frailer, and James H. Johnstone was a puffed-up nothing of a poltroon.

"We'll put it behind us, son," he said. "But from now on, there will be order in our household, do we understand each other?"

Our house? I looked up sharply at my Mama. She smiled at me, nervously.

"We married, James. A month ago. Congratulate me!"

I thought about it. My Mama needed someone around to take care of her, and vice versa. After all, it wasn't right for her to be all alone. With a start, I realized that in my mind, I'd left my Mama's house. I felt the Wells Fargo notes in my pocket.

"Congratulations, Mama. Congratulations, Mr. Johnstone."

Mama hugged me again and then Mr. Johnstone drove us home in the trap.

All through the rest of the day, Mama kept looking worriedly at me, whenever she thought I wasn't watching. I pretended not to notice, and did my chores, then took my *Chronicle* out to the apple orchard behind the Academy. I sat beneath a big, shady tree and re-read the paper, all the curious bits and pieces of a city frozen in time.

I was hardly surprised to see Mr. Adelson, nor did he seem surprised to see me.

"Back from France, James?"

"Yes, sir."

"Looks like it did you some good, though I must say, we missed you around the Academy. It just wasn't the same. Have you been keeping up your writing?"

"Sorry, sir, I haven't. There hasn't been time. I'm thinking about writing an adventure story, though—about pirates and space travelers and airships," I said.

"That sounds exciting." He sat down beside me, and we sat there in silence for a time, watching the flies buzz around. The air was sweet with apple blossoms, and the only sound was the wind in the trees.

"I'm going to miss this place," I said, unthinking.

"Me, too," Mr. Adelson said.

Our eyes locked, and a slow smile spread over his face. "Well, I know where I'm going, but where are you off to, son?"

"You're going away?" I said.

"Yes, sir. Is that a copy of the *Chronicle*? Give it here, I'll show you something."

He flipped through the pages and pointed to an advertisement. "The *Slippery Trick* is in port, and they're signing on crew for a run through the South Seas, in September. I intend to go as Quartermaster."

"You're leaving?" I said, shocked to my boots.

To my surprise, he pulled out a pouch of tobacco and some rolling papers and rolled himself a cigarette. I'd never seen a schoolteacher smoking before. He took a thoughtful puff and blew the smoke out into the sky. "To tell you the truth, James, I just don't think I'm cut out for this line of work. Not enough excitement in a town like this. I've

that I couldn't catch the train. On the third Wednesday, I climbed out onto the roof and then went down the rope ladder I'd hidden behind a chimney. The Wells Fargo notes I'd started with were almost gone, mostly spent on the expensive food on the train—I hadn't dared try to sneak any food away from home, my Mama was no fool.

I thought about buying a ticket to the matinee. I still had almost five dollars, but a quick look at the menus in the restaurants had taught me that if I thought the food on the train was expensive, I had another think coming. I shouldered my rucksack and wandered away, taking care to avoid the filth from dogs and people that littered the sidewalks. I told myself that I wasn't homesick—just tired.

"OCTOBER 29, 1929, HUH?" REDDEKOP WAS A SMALL GERMAN with a graying spade beard and a heavily oiled part in his long hair. His fingers were long and nimble, but nearly everything else about him was short and crude. He made me nervous.

"Yes, sir. Mr. Nussbaum thought you'd know what it meant."

Reddekop struck a match off the side of the organist's pit, lighted a pipe, then tossed the match carelessly into the theater seats. I

wincing and he chuckled. "Not to worry, kid. The place won't burn down for a few years yet. I have it on the very best authority."

"Now, Nussbaum says October 29, 1929. What else does he say?"

"He said that you'd take care of me."

He gripped the pipe in his yellow teeth and hissed a laugh around the stem. "He did, did he? Well, I suppose I should. Of course, I won't know for sure for more than 25 years—I don't suppose you want to wait that long?"

"No, sir!" I said. I didn't like this little man—he reminded me of some kind of musical rat.

"I thought not. Do you know what a trust is, James?"

We'd covered that in common law—I could rattle off about 30 different kinds without blinking. "I have a general idea," I said.

"Good, good. What I'm thinking is, the best thing is for me to set up a trust through a lawyer I know on Market Street. He'll make sure that you're always flush, but never so filthy that someone will take a notice in you. How does that strike you?"

I thought it over. "How do I know that the trust fund won't disappear in a few years?"

"You're nobody's fool, huh? Well, how about this—you find your own advocate: a lawyer, a bondsman, someone you trust, and he can look over all the books and papers, make sure it's all square-john. How does that strike you?"

Reddekop knew I was a stranger in town, and maybe he was counting on my not being able to find anyone qualified to audit the trust, but I had an ace up my sleeve. I wasn't anybody's fool.

"That sounds fair," I said.

Back at my Mama's I'd had long hard days, doing chores: chopping wood, stacking hay, weeding the garden, carrying water. I'd go to bed bone-tired, limp as a rag and as exhausted as I thought I could be.

Boy, was I wrong! By the time I found Mr. Adelson's rooming house, I could barely stand, my mouth was dry as a salt-flat, and it was hard to keep my eyes open. They've got hills in San Francisco that must've been some kind of joke God played. His landlady, a worn-out gray woman whose sour expression seemed directed at everything and anything, let me in and pointed me up three rickety flights of stairs to Mr. Adelson's room.

I dragged my luggage up with me, bumping it on the stairs, and rapped on the door. Mr. Adelson answered in the same shirtsleeves and suspenders I'd seen him in that Christmas, an age ago, when my Mama dragged me to his cottage. "James!" he said.

"Mr. Adelson," I said. "Sorry to drop in like this."

He took my bag from me and ushered me into his room, pulling up a chair. "What on earth are you doing here?" he said. "Do your par-

The robutler trundled over.

never been happier than I was when at sea, and that's as good a reason to go back as any. I'll miss you, though, son. You were a delight to teach."

"But what will I do?" I said.

"Why, I expect your mother will send you back East to go to school. I graduated you from the Academy *in absentia* during the last week of classes. Your report card and diploma are waiting on my desk."

"Graduated?" I said, shocked. I had another year to go at the Academy.

"Don't look so surprised! There was no earthly reason for you to stay at the Academy. I'd say you were ready for college, myself. Maybe Harvard!" He tousled my hair.

I allowed myself a smile—I didn't think I was any smarter than the other kids, but I sure knew a whole lot more about the world—the worlds! And maybe, in my heart of hearts, I knew that I was a *little* smarter. "I'll miss you, sir," I said.

"Call me Robert. School's out. Where are you off to, James?"

I gestured with my copy of the *Chronicle*.

"My home town! Whatever for?"

I looked at my shoes.

"Oh, a secret. I see. Well, I won't pry. Does your mother know about this?"

I felt like kicking myself. If I said no, he'd have to tell her. If I said yes, I'd only have myself to blame if he spilled the news to her. I looked at him, and he blew a streamer of smoke into the sky. "No, sir," I said. "No, Robert."

He looked at me. He winked. "Better keep it to ourselves, then," he said.

THE TICKET GIRL AT THE CASTRO THEATER WASN'T ANY OLDER THAN I was, but she wore her hair shorter than some of the boys I'd known back home, and more makeup than even the painted ladies at the saloon. She looked at me like I was some kind of small-town fool. It was a look I was getting used to seeing.

"Reddekop only plays for the *evening* shows, kid. No organ for the *matinee*."

"Who you calling a kid?" I said. I'd kept a civil tongue ever since debarking the train, treating adult and kid with equal respect, but I was getting sick of being treated like a yokel. I'd been farther than any of these dusty slickers would ever go, and I was grown enough that I'd told my Mama and Mr. Johnstone that I was going off on my own, instead of just leaving a note like I'd originally planned.

"You. Kid. You want to talk to Reddekop, you come back after six. In the meantime, you can either buy a ticket to the matinee or get lost."

On reflection, telling my Mama was probably a mistake. It meant that I was locked in my room for two consecutive Wednesdays so

ents know where you are? Are you all right? Have you eaten? Are you hungry?"

"I'm pretty hungry—I haven't eaten since supper last night on the train." I tried to make it sound jaunty, but I'm afraid it came out pretty tired-sounding.

"I'll fix us sandwiches," he said, and started fishing around his sea-chest. I watched his shoulders move for a moment, and then my eyes closed.

Well, good morning," Mr. Adelson said, as I sat bolt upright, disoriented in a strange bed with a strange blanket. "Coffee?"

He was leaning over a little Sterno stove, heating up a small tin pot. Morning Sun streamed in through the grimy window.

"I wrapped your sandwich up from last night. It's there, on the dresser."

I stood up and saw that except for my shoes, I was still dressed. The sandwich was salt beef and cheese, and the sourdough was stale, and it was the best thing I'd ever eaten. Mr. Adelson handed me a tin cup full of strong coffee, and though I don't much like coffee, I found myself drinking it as fast as I could.

"Thank you, Mr. Adelson," I said.

"Robert," he said, and sat down on the room's only chair. I perched on the bed's end. "Well, you seem to have had quite a day! Let's hear about it."

I told him as much as I could, fudging around some of the details—my Mama surely did know where I was, even if she wasn't very happy about it; and of course, I couldn't tell him that I'd met Nussbaum in 1975, so I just moved the locale to France, and caged around what message he'd asked me to deliver to Reddekop. It still made for a pretty exciting telling.

"So you want me to go to this lawyer's office with you? To look over the papers? James, I'm just a sailor, I'm not qualified."

I'd prepared for this argument, on the long slog to the rooming house. "But I know something about this; they won't believe it, though, and will slip all kinds of dirty tricks in if they think that the only fellow who'll be looking at it is just a kid."

"Explain to me again why you don't want to wire Mr. Johnstone to come and look it over? It sounds like an awful lot of money for him not to be involved."

"He's not my Pa, Rob. I don't even like him, and chances are, he'll hide away all that money until I'm 18 or 21, and try to send me off to school."

"And what's wrong with that? You have other plans?"

"Sure," I said, too loudly—I hadn't really worked that part out. I just knew that the next time I set foot in New Jerusalem, I'd be my own man, a man of the world, and not dependent on anyone. I'd take

MR. ADELSON WORE HIS TEACHER CLOTHES FOR THE AFFAIR AND I wore the good breeches and shirt I'd packed. We stopped at a barber's before; Mr. Adelson treated me to a haircut from the No. 2 man while he took a shave and a trim. We boarded the cablecar to Market like a couple of proper gentlemen, and if I thought flying in a jetpack was exciting, it was nothing compared to the terror of hanging on the running-board of a cablecar as it labored up and then—quickly!—down a monster hill.

The lawyer was a foreigner, a Frenchie or a Belgian, and his offices were grubby and filled with stinking cigar smoke and the din of the trolleys. He asked no embarrassing questions of me. He just sized up Mr. Adelson, then put away the papers on his desk and presented a set from his briefcase, laying out the terms of the trust, and retreated from the office. I read over Mr. Adelson's shoulder, the terms scribbled in a hasty hand, but every word of it legal and binding, near as I could tell.

The amounts in question were staggering. Two hundred dollars, every month! Indexed for inflation, for 70 years or the duration of my natural life, whichever was lesser. The records of the trust to be deposited with the Wells Fargo, subject to scrutiny on demand. Mr. Adelson looked long and hard at me. "James, I can't begin to imagine what sort of information you've traded for this, but son, you're rich as Croesus!"

"Yes, sir," I said.

"Do these papers look legal to you?"

"Yes, sir."

"They seem legal to me, too."

A bubble of excitement filled my chest and I had to restrain myself from bouncing on my heels. "I'm going to sign it," I said. "Will you witness it?"

"I've got a better idea. Let's get that lawyer and take this down to the Wells Fargo and have the president of the bank witness it himself."

And that's just what we did.

MR. ADELSON HAD SPENT THE PREVIOUS NIGHT ON THE FLOOR, while I slept in his bed. My first month's payment was tucked carefully in my pocket, and over his protests I pried loose a few bills and took my own room in the rooming house, and then the two of us ate out at a restaurant whose prices had seemed impossibly out of reach the day before. We had oysters and steaks and I had a slab of apple pie for dessert with fresh ice cream and peach syrup, and when I was done, I felt like a new man. Mr. Adelson had a bottle of beer with dinner, and a whiskey afterward, and I insisted on paying.

"Well, then," he said, sipping his whiskey. "You're a very well-set-up young man. What will you do now?"

All throughout my scheming since my second return from '75, the prospect of what to do with all the money had niggled away at the back of my mind. All I knew for sure was that I didn't want to grow

I saw boys scooting around in jet-packs.

Mama and Mr. Johnstone out for a big supper, and stay in the fanciest room at the Stableman's hotel, and hire Tommy Benson to carry my bags to my room. "Besides, I'm not asking you to do this for free. I'll pay you a—an administrative fee. Five percent, for life!"

He looked serious. "James, if I do this—mind I said *if*—I won't take a red cent. There are things here that you're not telling me. Now, that's your business, but I want to make sure that if anyone ever scrutinizes the affair, that it's clear that I didn't receive any benefit from it."

I smiled. I knew I had him—if he'd thought it that far through, he wasn't going to say no. Besides, I hadn't even played my trump card yet: that if he didn't help me, I'd be out on the streets on my own, and I could tell that he didn't like that idea.

up in New Jerusalem. I wanted adventure, exotic places and people, danger and excitement. Over dinner, though, a plan had been forming in my head.

"Does the *Slippery Trick* need a cabin boy?"

He shook his head and smiled at me. "I was afraid it was something like that. Son, you could pay for a stateroom on a proper liner with all the money you have. Why would you want to be in charge of chamber pots on a leaky old tub?"

"Why do you want to sail off on a leaky old tub instead of teaching in Utah, or working on the trolleys here?"

It took me most of the night to convince him, but there was no doubt in my mind that I would, and that when the ship sailed, I'd be on it, with a big, leather-bound log, writing stories. □

Alien invitation

The visitor from a distant planet has something to say. Will you listen?

I am nothing at all like you.
We are completely different.

I present the semblance of being
human but that is only a clever
subterfuge.

I can take on any form I choose
and move through your time at
will.

I can see things you are unable to
see, understand what you will
never understand.

You may think the same with
regard to me. On that count you
would be utterly mistaken.

I have been temporarily exiled to
your world for reasons on which I
will not elaborate.

I must breathe your air and eat
your food and walk the streets of
your fearsome cities.

For now I am condemned to
human form with all its
gracelessness and limitations.

Yet whatever my crimes they pale
before the crimes I have seen
through your ages.

There is a definite beauty to this
planet though you will eventually
destroy it.

Your cruelty to other species is
matched only by your cruelty to
one another.

The worthy among you pass
unnoticed while you acclaim and
celebrate others.

Beyond the words and smiles they
wear your rulers are hypocrites
and demagogues.

Your so-called civilizations exist
primarily to privilege the few and
subdue the rest.

You are an unsavory and pathetic
breed, so full of yourselves and
still so hollow.

When the term of my exile tran-
spires the mothership will come to
claim me.

I will pack no suitcases or carry-
on. I will take only the clothes
upon my body.

I will leave your world without
regrets, farewells, and never a
backward glance.

The life that awaits me is one that
you have imagined only in your
finest dreams.

I will be allowed a single travel-
ing companion. Answer quickly
now! Are you interested?

MY PRIZE POSITION

ARRIVAL

an original limited edition lithograph by

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the Juniper Tree

*On the Moon, Jack Baldwin
thought he had found a place
of peace. All he really found
was another place to hide.*

By John Hessel

Illustration by
Bob Eggleton

THE JUNIPER TREE

One of the most successful transplants to the colony established by the Society of Cousins on the far side of the Moon was the juniper tree. Soon after Jack Baldwin and his daughter Rosalind emigrated in 2085, a project under Baldwin's direction planted junipers on the inside slopes of the domed crater, where they prospered in the low-moisture environment. Visitors to the Society today may be excused if, strolling the woods above the agricultural lands of the crater floor, the fragrance of the foliage, beneath the projected blue sky of the dome, makes them think for a moment that they are in some low-gravity dream of New Mexico.

It was under a juniper tree that Jack disposed of the remains of Carey Evasson, the 14 year-old boy he killed.

ICE

The blue squad's centering pass slid through the crease, where Maryjane fanned on the shot. The puck skidded to the boards, and Roz, who had been promoted to the red team for today's practice, picked it up to start a rush the other way. Carey spotted her from across the rink and set off parallel to her. They'd caught the blues off guard, with only Thabo between them and the goalie. Thabo came up to check her. Roz swerved right, then left a drop pass for Carey.

But Thabo poked his stick between Roz's legs and deflected the pass. While Roz and Carey overran the play, Thabo passed the puck back the other way to Maryjane.

Their breakaway was interrupted by the shriek of Coach Ingasdaughter's whistle. The coach skated onto the ice, yelling at Roz. "What kind of a play was that? You've got a two-on-one and you go for the drop pass? *Shoot the Puck!*"

"But if Thabo had followed me Carey would have had an open net."

"If if if!" She raised her eyes to the roof of the cavern far overhead. "Why do you think Thabo didn't follow you? He knew you would pass, because you *never* shoot! If you don't establish that you're a threat, they're always going to ignore you. For once, let the *boy* get the rebound!"



Roz's face burned. The blue and red squads stood around watching her take the heat. Carey was looking down, brushing the blade of his stick across the ice.

Coach Ingasdaughter suddenly grabbed Roz by the shoulders, pulled her forward, and planted a kiss on her lips. "But what can I expect from a girl whose parents were married?" she said, letting Roz go. Someone snickered. "Ten-minute break," Ingasdaughter said, and turned away.

Roz almost took a slash at her retreating back. Instead she looked past the coach to the bleachers where a few off-shift pressure workers sat, helmets thrown back over their shoulders, watching the practice. Beyond the rink, the floor of the cave was one huge mass of blue ice, humped and creased, refracting the lights and fading into the distance. The coach skated over to talk with her assistant. Most of the team went over to the cooler by the home bench. Roz skated to the penalty box, flipped the door open and sat down.

It was hard being the only immigrant on the hockey team. The cousins teased her, called her "High-G." Roz had thought that going out for hockey would be a way for her to make some girlfriends who could break her into one of the cliques. You needed a family to get

"Keep your voice down!"

"Why?"

"We're going to climb Shiva Ridge and pee on the mountaintop." He tapped a finger on her leg. His touch was warm.

"Sounds like a boy thing," she said. "If your mother finds out, you'll be in deep trouble."

He smiled. "You'll never get to be an alpha female with that attitude, High-G. Mother would have invented this club, if she'd thought of it." He got up and went over to talk to Thabo.

God, she was so stupid! It was the beginning of Founders' Week, and she had hoped Carey would be her guide and companion through the carnival. She had worried all week what to wear. What a waste. She'd blown it. She tugged on the green asymmetrically-sleeved shirt she had chosen so carefully to set off her red hair.

Roz hung around the edges as Carey joked with the others, trying to laugh in the right places, feeling miserably out of place. After they dressed, she left with Carey, Thabo, and Raisa for the festival. Yellow triangular signs surrounded the pressure lock in the hallway linking the ice cavern to the lava tube. Roz struggled to keep up with Carey who, like all of the kids born on the Moon, was taller than Roz. Raisa

The interior surface was a screen on

anywhere among the Cousins. You needed a mother. A father was of no consequence—everybody had a dozen fathers, or none at all.

Instead she met Carey. And, through dumb luck, it had seemed to work. Carey's grandmother, Margaret Emmasdaughter, had known Nora Sobieski personally. His mother was Eva Maggiesdaughter, chair of the Board of Matrons, by some measures the most powerful woman in the colony.

Some of the players started skating big circles on the oversized rink. She watched Carey build up a head of steam, grinning, his blond hair flying behind him. On the next time around he pulled off his glove, skated past the penalty box, winked, and gave her five as he flew by. The heavy gold ring he wore left a welt on her palm; just like Carey to hurt her with his carelessness, but she could not help but smile.

The first time she had met Carey a check she threw during practice nearly killed him. Roz had not gotten completely adjusted to skating in one-sixth gee, how it was harder to start and stop, but also how much faster you got going than on Earth. Carey had taken the full brunt of her hit and slammed headfirst into the boards. Play stopped. Everyone gathered around while he lay motionless on the ice.

Carey turned over and staggered to his feet, only his forehead showing above his shoulder pads. His voice came from somewhere within his jersey. "Watch out for those Earth women, guys."

Everyone laughed, and Carey poked his head out from below his pads. His bright-green eyes had been focused on Roz's, and she burst out laughing, too.

When her father moved in with Eva, Carey became the brother she had never had, bold where she was shy, funny where she was sober.

Coach blew her whistle and they did two-on-one drills for the rest of the practice. Afterward Roz sat on a bench in the locker room tapping the blade of her stick. At the end of the bench Maryjane flirted with Stella in stage whispers. Roz tried to ignore them.

Carey, wrapped only in a towel, sat down next to Roz and checked to see whether the coaches were in earshot. She liked watching the way the muscles of his chest and arms slid beneath his skin, so much so that she tried hard not to look at him. He leaned toward her. "Hey, High-G—you interested in joining the First Imprints Club?"

"What's that?"

He touched her on the leg. He always touched her, seemingly chance encounters, elbow to shoulder, knee to calf, his forehead brushing her hair. "A bunch of us are going to meet at the fountains in the dome," Carey said. "When the carnival is real crazy we're going to sneak out onto the surface. You'll need your pressure suit—and make sure its waste reservoir vent is working."

"Waste reservoir? What for?"

leaned on Thabo. Raisa had told Roz the day before that she was thinking about moving out and getting her own apartment. Raisa was 13, six months younger than Roz.

The lava tube was as much as 40 meters wide, thirty tall, and it twisted and turned, rose and fell, revealing different vistas as they went along. Shops and apartments clung to the walls. Gardens grew along the nave beneath heliostats that transformed light transmitted from the surface during the lunar day into a 24-hour cycle. Unless you went outside you could forget whether it was day or night out on the surface.

Now it was "night." As they entered the crater from the lava tube, the full extent of the colony was spread out before them. The crater was nearly two kilometers in diameter. Even in one-sixth gee the dome was a triumph of engineering, supported by a five hundred meter-tall central steel-and-glass spire. Roz could hardly believe it, but the school legend was that Carey had once climbed the spire in order to spray-paint the name of a girl he liked on the inside of the dome.

Above, the dome was covered with five meters of regolith to protect the inside from radiation, and beneath the ribbed struts that spread out from the spire like an umbrella's, the interior surface was a screen on which could be projected a daytime sky or a nighttime starfield. Just now thousands of bright stars shone down. Mars and Jupiter hung in bright conjunction high overhead.

From the west and south sides of the crater many levels of balconied apartments overlooked the interior. Most of the crater floor was given over to agriculture, but at the base of the spire was Sobieski Park, the main meeting ground for the colony's 2,500 inhabitants. An elaborate fountain surrounded the tower. There was an open-air theater. Trees and grass, luxuriantly irrigated in a display of conspicuous water consumption, spread out from the center.

Roz and the others climbed down the zigzag path from the lava tube and through the farmlands to the park. Beneath strings of colored lights hung in the trees, men and women danced to the music of a drum band. Naked revelers wove their way through the crowd. Both sexes wore bright, fragrant ribbons in their hair. A troupe performed low-gravity acrobatics on the amphitheater stage. Little children ran in and out of the fountains, while men and women in twos and threes and every combination of sexes leaned in each other's arms.

On the shadowed grass, Roz watched an old man and a young girl lying together, not touching, leaning heads on elbows, speaking in low voices with their faces inches apart. What could they possibly have to say to each other? Thabo and Raisa faded off into the dancers around the band, and Roz was alone with Carey. Carey brought her

a flavored ice and sat down on the grass beside her. The drum band was making a racket, and the people were dancing faster now.

"Sorry the coach is on your case so much," Carey said. He touched her shoulder gently. The Cousins were always touching each other. With them, the dividing line between touching for sex and touching just to touch was erased.

God, she wished she could figure out what she wanted. Was he her brother or her boyfriend? It was hard enough back on Earth; among all these Cousins it was impossible.

When she didn't answer right away, Carey said, "The invisible girl returns."

"What?"

"You're disappearing again. The girl from the planet nobody's ever seen."

Roz watched the girl with the man on the grass. The girl was no older than her. The distance between the two had disappeared; now the girl was climbing onto the man.

Carey ran his finger down Roz's arm, then gently nudged her over. Roz pushed him away. "No thanks."

Carey tried to kiss her cheek, and she turned away. "Not now, OK?"

them. It was the one day of the year that the Society of Cousins fit the clichéd image of polymorphous orgy that outsiders had of it. One of them, a dark young woman—dark as Eva—brushed her fingers across Jack's cheek, then swirled away on one luscious hip.

But Eva was taller, more slender. Eva's breasts were small, her waist narrow despite the softness of the belly that had borne Carey, and when they made love her hipbones pressed against him. She was 40, and there was gray in her black hair. This girl dancing by could satisfy his lust, and perhaps if he knew her she would become a person as complex as Eva. But she would not be Eva: the combination of idealism and practicality, the temper that got her into trouble because she could not keep her mouth shut. Fierce when she fought for what mattered to her, but open-hearted to those who opposed her, with an inability to be successfully Machiavellian that was her saving grace.

He had met Eva a month after he and Roz had arrived at the colony. Jack was working on a new nematode that, combined with a gene-engineered composting process, would produce living soil from regolith more efficiently than the tedious chemical methods that had been used to create Fowler's initial environment. His spe-

which could be projected a daytime sky.

"What's the matter?"

"Does something have to be the matter? Any Cousins girl might tell you no, too. Don't act like it's just because I'm from Earth."

"It is."

"Is not."

"I'm not going to rape you, High-G. Cousins don't rape."

"What's that supposed to mean?"

"Absolutely nothing. But you know how screwed up it is down on Earth."

"Lots of stuff people do here would be wrong on Earth."

"Right. And people there shoot each other if anyone touches them."

Cousins could be so arrogant it made her want to spit. "You've never even seen the Earth—let alone been there."

"I've seen you, Roz."

"You don't own me."

He smiled. "No. Your father does." He nuzzled her neck.

Roz hit him. "Get off me, you pig!" She got up and ran away.

FESTIVAL

Forty milligrams of serentol, a whiff or two of THC, and an ounce of grain alcohol: Jack Baldwin wobbled through the crowd of revelers in Sobieski Park. Beneath the somatic night, feeling just an edge of anxiety, he looked for Eva among the faces.

The park was full of young men and women, their perfect bodies in one another's arms. Sex was their favorite pastime, and who could blame them? They went about it as if their lives depended on the next coupling. That was biology at work, he supposed—but if it was just genes having their way with the human body, then why all the emotional turmoil—does she love me who's he sleeping with I can't stand it when she looks at him like that how unfair to treat me like a toy who does he think he is I can't stand it I'll die if I can't have her tonight...

Where was Eva? He smiled. Apparently genes did not let go of your mind just because you were pushing 40. Sex had been a problem back on Earth—always some screw-up with women coworkers, hassles with his live-ins, distractions. Here, sex was the common coin of interpersonal contact, unjudged as taste in ice cream (but some people made a religion of taste), easy as speech (but speech was not always easy), frequent as eating (but some people starved themselves in the midst of plenty). Where did that leave him? Was he simply a victim of the culture that had raised him? Or was his frustration purely personal?

Where was Eva?

Men and women, naked, oiled, and smiling, wove their way through the celebrants, offering themselves to whoever might wish to take

cialty in nematodes had been the passport for him and Roz into the guarded Cousins society, the last bridge after a succession of burned bridges he had left behind them. He certainly had not planned to end up on the Moon. The breakup with Helen. The fight over Roz, ending with him taking her against the court order. The succession of jobs. The forged vita.

Eva, newly elected head of the board, was head of the environmental subcommittee. She had come by the biotech lab in the outlying bunker. Jack did not know who the tall, striking woman in the webbed pressure suit was. She asked questions of Amravati, the head of the project, then came over to observe Jack, up to his ankles in muck, examining bacteria through an electron microscope visor.

Flirting led to a social meeting, more flirting led to sex. Sex—that vortex women hid behind their navels, that place he sometimes had to be so badly that every other thought fell away and he lost himself again. Or was it finding himself? Eva's specialty was physics, some type of quantum imaging that he did not understand and whose practical benefits he could not picture. But a relationship that had started as a mercenary opportunity had, to Jack's surprise, turned to something like love.

As Jack sat on the edge of the fountain, hoping he might find Eva in the crowd, instead he spotted Roz. Her face was clouded; her dark brown eyes large with some trouble. "Roz?" he called.

She heard his voice, looked up, saw him. She hesitated a moment, then walked over.

"What's the matter, sweetheart?" he asked.

"Nothing." She sat down next to him. She was bothered by something.

Across the plaza, two of the acrobats juggled three children in the low gravity the way someone on Earth might juggle bean bags. The kids, tucked into balls, squealed in delight as they rose and fell like the waters of the fountain.

"Isn't this amazing?" Jack asked.

"Amazing, Dad—that's very perceptive."

"What?"

"This place is disgusting. Look at that old creep there feeling up that girl."

"We talked about this, Roz. The Cousins do things differently. But they don't do anything against anyone's will."

"It's all OK with you, just as long as you're getting laid every night."

He put his hand on her leg. "What's going on?"

She pulled away. "Nothing's going on! I'm just tired of watching you take advantage of people. Mom would never have brought me here."

Roz never mentioned her mother. Jack tried to focus. "I don't know, girl. Your mom had her own problems fitting in."

"The only reason we came here is that you couldn't get a job back on Earth."

He tried to get Roz to look at him, but she was fixed on her outsized plastic shoes. "Aren't we hostile tonight," he said. She didn't answer. He saw for the first time how much her profile had become that of a grown woman. "I'll admit it. The job had something to do with it. But Roz, you've got a chance to become someone here you could never be on Earth—if you'll make an effort. Women are important here. Hell, women run the place! Do you think I like the idea of being a second-class citizen? I gave up a lot to bring you here."

"All you care about is getting into Eva's bed," Roz told the shoes. "She's using you, and she'll just dump you after she's had enough, like all these other Cousins."

"You think that little of my choices?"

That made her look at him. Her face was screwed into a furious scowl. The music of the drum band stopped suddenly, and the people applauded. "How do you know Eva's not going to try to get me into bed with her, too?"

Jack laughed. "I don't think so."

She stood up. "God, you are so smug! I can't tell you anything!"

"Roz, what is this—"

She turned and stalked off.

"Roz!" he called after her. She did not turn back.

Next to him, a thin black woman holding a toddler had been eavesdropping. Jack walked away to escape her gaze. The band started another song. Inwardly churning, he listened to the music for a few minutes, watching the people dance. Whatever his failings, hadn't he always done his best for Roz? He didn't expect her to agree with him all the time, but she had to know how much he loved her.

The amused detachment with which he'd entered the plaza was gone. The steel drums gave him a headache. He crossed the plaza. Before he had gone 10 paces he saw Eva. She was in the crowd of

say hello, but he passed her by with a wave. Jack's head throbbed. Beyond the trees that marked the border of Sobieski Park he followed a path through fields of dry-lands soybeans, corn, potatoes. There was no one out here—most of the Cousins were at the festival now.

A kilometer later the path turned upward into the open lands of the crater slopes. Low, hardy, blue-white grass covered the ground. But the sound of the band still floated over the fields, and turning, Jack could see the central tower lit by the colored lights. The foliage was side-lit only by that distant light and the projected starlight from the dome. Somewhere off to his left a night bird sang in a scraggly pine. He turned his back to the festival.

It was an easy climb in one-sixth gee, and when he hit the concrete rim of the crater that supported the dome he followed the perimeter road around toward the north airlock. He wanted out. The best refuge he could think of was the biotech lab.

Because of the festival, the airlock was deserted. Jack took his pressure suit from his locker, suited up, and cycled through the personnel lock. He passed through the radiation baffles to the surface.

Although it was night inside the dome, out here it was lunar afternoon. Harsh shadows lay beneath the fields of solar collectors lining the road to the labs. Jack skipped along the tracked-up roadway, kicking up a powder of fines. Over the throb of his headache he listened to the sound of his own breathing in his earphones.

The fight he'd had with Roz was just like one of his final spats with Helen, full of buried resentments and false assumptions. Roz's accusations stung because there was an element of truth in them. But Roz was wrong to say Jack didn't care about her. From the moment of her birth Jack had committed himself to Roz without reservation. Clearly he hadn't paid enough attention to her troubles, but he would do anything to protect her.

Roz didn't understand that things were hard for Jack. "All men are boys," the Cousins said. In the case of a jerk like Keikosson, he could admit the saying's truth. But it was as much a product of the way they lived as of the men themselves. The women of the Cousins indulged

Across the plaza, two of the acrobats

dancers, paired with a round-faced woman. The woman was grinning fiercely; she bumped against Eva, slid her belly up against Eva's. Eva had her arms raised into the air and was smiling too, grinding her hips.

As Jack stood watching, someone sidled up to him. It was Hal Keikosson, who worked in Agriculture. Hal was in his forties and still living with his mother—a common situation among the Cousins.

"Hey, Jack. Who was that girl I saw you talking to? That red hair? Cute."

Jack kept watching Eva and the woman. Eva had not noticed him yet. "That was my daughter," he told Hal.

"Interesting." Hal swayed a bit, clutching a squeeze cup in his sweaty hand.

Jack ought to let it go, but he couldn't. "What does that mean?"

"Nothing. She must be 14 or 15 already, right?"

"She's 14."

"And maybe she isn't your daughter." Hal giggled.

Jack stared at him. "What?"

"I mean, how could her mother be sure—or maybe she lied to you."

"Shut the fuck up before I belt you."

"Hey, it's none of my business who you sleep with."

"I'm not sleeping with her."

"Calm down, calm down, Cousin." Hal took a sip from his cup. He looked benignly over at the figures writhing in the shadows beneath the trees. "Too bad," he said quietly, and chuckled.

Jack stalked away to keep from taking a swing at him.

The drum band was louder now, and so was the babble of the increasing crowd. He passed a group of drunken singers. Near the amphitheater he saw one of the acrobat children staggering around in circles, giggling. Jamira Tamlasdaughter, a friend of Eva's, tried to

their boys their pleasures, kept them adolescents far into their adulthood. It was a form of control-by-privilege.

Jack chafed at the way a male in the colony was seldom respected for his achievements, but rather for who his mother and grandmother were. He hated the way women deferred to him once it got around that he was Eva Maggiesdaughter's latest partner. He hated the side-long glances he got about his relationship to Roz. He was Roz's father. He was not anyone's boy.

The biotech labs were located in a bunker a kilometer north of Fowler. He entered the personnel lock, air-blasted the fines from his suit, and removed it. Like the airlock, the lab was deserted. He passed through the greenhouse's rows of juniper and piñon seedlings to the soils lab. The temperature on his latest batch of nematode soil was 30 centigrade. He drew on some boots, rolled back the cover on the reservoir, and waded into the loamy earth. The rich smell of nitrogen compounds filled his lungs, and he felt momentarily dizzy with relaxation.

Taking a cermet rake from the tool cabinet, he worked over the surface of the soil. His nematodes were doing their jobs nicely, increasing the water content, breaking down organics and hosting the nitrogen-fixing bacteria. Once his team got the OK from the colony's environmental committee, they would start a trial planting using the soil and the greenhouse seedlings on Fowler's east slope.

He had not been working long when he heard the airlock alert. Startled, he dropped the rake and stood up. Some minutes later a figure emerged from the greenhouse and peered from around the rock crusher. "Jack?"

"Over here, Carey," Jack said.

The boy came over. He was taller than his mother, and blond instead of dark. Jack wondered once again who his father was. Carey was still wearing his pressure suit, helmet off.

"What are you doing here?" Jack asked. "How did you know I was here?"

"I was coming into the north airlock when I saw you cycling out," Carey said. "By the time I got my suit on you were gone, but I figured you might be here. I wanted to speak with you about Roz, Jack."

"What about her?"

"I think she's having a hard time," Carey said. "I think you might want to pay more attention to what's going on with her. Fathers like you do that, right?"

"Fathers like what?"

"Come on, Jack, you know—Earth fathers."

"What's wrong with Roz?" Jack asked.

"She seems to have some sexual hang-ups. She hasn't talked with you about it? She talks about you all the time."

"I don't think there's anything wrong with Roz. Besides, it's none of your business, Carey."

"Well, it sort of is. At least if she's not telling you these things, and you care about her, then I guess I need to tell you. Like after we slept together the first time, she cried."

"You slept with her?" Jack's own voice sounded leaden in his ears.

"Sure. I thought you knew." Carey was completely unselfconscious. "I mean, we're all in the same apartment. She didn't tell you that, either?"

"No."

"She needs help. She's making some progress with the kids on the hockey team, but for every step forward she takes one back. I think she's too hung up on you, Jack."

"Don't call me Jack."

Carey looked confused. "Excuse me?"

"Don't call me Jack, you little pissant. You don't know a thing about me and Roz."

"I know you're immigrants and don't understand everything. But a lot of people are starting to think you need to live separately. You don't own Roz."

"What the hell are you talking about?"

He looked around the room. In front of him was the reduction chamber, the crusher, the soil reservoir. Shuddering, he went back to the tool chest and found a machete. He dragged Carey's body over the edge of the reservoir, getting dirt up to his own elbows. The soil was rich with the heat of decomposition.

Jack was about to begin cutting off Carey's arms when the airlock alert sounded again. He panicked. He stumbled out of the reservoir, trying to heft Carey's body into the hopper of the crusher. Before he could conceal the body he heard steps behind him.

It was Roz. She stood for a moment staring at him as he held Carey's bare ankle in his hand. "Dad?"

"Go away, Roz."

She came over to him. "Dad, what's going on?" She saw the body. "Jesus, Dad, what happened?"

"An accident. The less you know about it the better."

She took a couple of steps closer. "Carey? Is he all right?"

"Go away, Roz."

Roz put her hand to her mouth. "Is he dead?"

Jack let go of Carey and came over to her. "It was an accident, Roz. I didn't mean to hurt him. He fell down."

"Carey!" She rushed over, then backed away until she bumped into the rock crusher. "He's dead! What happened? Dad! Why did you do this?"

Jack didn't know what to do. He looked back at Carey, lying awkwardly on the concrete floor, the machete beside his leg. "It was an accident, Roz. I grabbed him, he fell. I didn't mean to—"

"Carey," she said. "Carey." She would not look at Jack.

"Roz, I would never have hurt him on purpose. I—"

"What were you fighting about?"

"It wasn't a fight. He told me you had slept together. I was shocked, I guess. I—"

Roz slumped to the floor. "It was my fault?"

"No. It was an accident."

"I don't believe this," she said. She looked at Carey's body. Jack thought about the last time she must have seen him naked. "You're

juggled three children in the low gravity.

"She's a woman. She can make up her own mind."

The boy's face was an open map of earnest, smug innocence. Jack couldn't stand it. "Damn you, she's not your whore!"

Carey laughed. "A whore? That's an Earth thing, right? One of those sexual ownership practices?"

Jack took one step, grabbed the collar of the boy's pressure suit, and yanked him forward. Carey's feet caught on the edge of the reservoir. As he fell, he twisted around; Jack lost his own balance and shoved Carey downward to keep from falling himself. Much faster than normal in lunar-gee, Carey hit the ground. His head snapped sideways against the rake.

Catching his balance, Jack waited for Carey to get up. But he didn't get up. Jack crouched over the boy. Carey had fallen onto the head of the rake; one of the six-centimeter ceramic tines had penetrated his temple. Blood seeped into the soil.

Carefully, Jack drew out the tines, rolled him over. Carey shuddered and the blood flowed more freely. The boy's breathing was shallow, his eyes unfocused. As Jack watched, Carey's breathing stopped.

After 10 minutes of futile CPR, Jack fell back from Carey's limp body and sat down heavily on the edge of the reservoir.

Jesus Christ. What had he done? What was he going to do now? Eva!—what would she think?

It was an accident. But that didn't matter. He was an immigrant, an outsider, a man. Someone would surely accuse him of murder. They would drug him into insensibility, cut up his brain. At best they would expel him from the colony, and Roz with him—or worse still, they might not expel Roz. He sat there facing the cold reality of his 38 years of screwed-up life.

Carey's head lolled back into the muck, his mouth open. "You arrogant prick," Jack whispered to the dead boy. "You fucked it all up."

going to go to jail!" Roz said. "They might even kill you. Who's going to take care of me?"

"I'm going to take care of you. Please, Roz, don't think about this. You need to get out of here."

"What are we going to do?"

"You're not going to do anything except get out! Don't you understand?"

Roz stared at him a long moment. "I can help."

Jack felt chilled. "I don't want your help! I'm your father, damn it!"

She sat there, her eyes welling with tears. It was a nightmare. He sat down next to her and put his arm around her. She cried against his shoulder. A long time passed, and neither of them spoke.

Finally she pulled away from him. "It's my fault," she said. "I should have told you I loved him."

Jack closed his eyes. He could hear his own pulse in his ears. The soil of the reservoir smelled as rich as ever. "Please, don't say any more."

"Oh, god, how could you do this?" he heard her whisper. "Carey..." She cried against Jack's shoulder some more.

Then, after a while, swallowing her tears, Roz said, "If we get rid of his suit ... if we get rid of his suit, they'll think he got lost on the surface."

He opened his eyes and looked at her. Now he was scared. Who was this girl?

"What do you mean?" he asked.

EATING

Eva expected Jack would turn up at the festival eventually, and she didn't want to miss the partying. Her mother came by with some of her cronies, and then Eva found herself dancing with Angela Ange-

lasdaughter, the colony's most notorious artist. Ten years ago, any gossip session in the sauna would devote 10 minutes to the sexy sculptress and her physicist lover. Since then Angela had gained a pot belly, but her smile was as wicked as ever.

During a break in the music, Eva shared a drink with Jamira Tam-lasdaughter. Jamira told Eva she had seen Jack earlier. "He's so handsome, Eva," Jamira said. "You're so lucky. He's like a god."

Eva smiled, thinking of Jack's taut body stretched across her bed. "Where did he go?"

"I don't know. I expect he's here somewhere."

But Jack did not show up. What with one thing and another it was well after midnight when Eva returned to her apartment. Jack was sitting on the floor with a glass in front of him.

"So here you are," Eva said. "I thought we would meet at the festival."

He looked up at her, and his blue eyes were so soulfully sad that she melted. "I couldn't find you," he said quietly.

She sat down next to him. "I got caught up at the lab." She and Victor had been working overtime on assembler programming. "Are Carey and Roz here?"

"No."

"Good. Then we can entertain ourselves—unless this stuff you pour into yourself makes that unnecessary."

Jack put his arms around her, pulled her to him, and rested his forehead against hers. "You know I always need you," he whispered. Eva could smell spiced alcohol on his breath. She pulled him back onto the floor, and they kissed furiously.

They eventually found their way to the bedroom. Afterward, she was ravenously hungry. As a member of the Board, she had earned the privilege of a small kitchen: she padded in, naked, and returned to the room with a plate, a knife, an apple, and a hunk of cheese.

Jack was stretched across the bed just as she had imagined him, the muscles of his belly thrown into relief by the low light. She sat cross-legged beside him, cut a slice from the apple and offered it to him. "Here we are, in the Garden. Eve offers you an apple."

"No, thanks."

"Come on, Adam. Have some fun."

His eyes flicked away from her, the corner of his mouth twitched. "I've had too much fun already," he said to the ceiling.

She drew the apple slice across his chest, down to his navel. "There's always more where that came from."

"I'm worried about Roz. She shouldn't be out this late."

"Your daughter's too sensible to do anything risky." Eva heard the door to the apartment open, the sound of someone coming down the hall and entering Rosalind's room. "See?" Eva said. "There she is."

"What about Carey?"

"Carey, on the other hand, is no doubt busy getting into some sort of trouble. We'll deal with him in the morning."

festival, telling them he would catch up with them at the airlock. After waiting for him, they had gone out without him, expecting that he'd meet them on Shiva Ridge.

Carey's pressure suit was not in his locker at the north airlock. Eva tried not to panic. She alerted colony security. Hundreds of volunteers joined in a search of the surface. With the assistance of Carey's friends they found the footprints of the party, but none for Carey. Lunar Positioning Satellites could not raise his suit's locator. Parties scanned the prominent landmarks, but came up empty.

The next days became a nightmare. Eva spent all of her waking hours out on the surface with the search parties, coming inside only to recharge her air supply and catch an hour or two of sleep. Her eyes fell into a permanent squint from the brightness of the surface. For the first 24 hours Eva still hoped Carey might be found alive. He had fallen unconscious in the shadow of some rock, she told herself; hypothermia would keep his metabolism low so he wouldn't exhaust his oxygen.

As the hours passed she kept despair at bay by driving herself even harder. The third day found her a part of a line of 20 Cousins, at hundred-meter intervals, sweeping Shiva ridge for the fourth time. Something was wrong with her faceplate: it was breaking all the gray landscape into particles, no piece of the Moon connected to any other piece, and all of it was dead. The voices of the other searchers calling to each other sounded in her ear button. "Nothing here." "Where's here?" "I'm on the east end of the ridge, below Black Rock."

Eva felt numb. She came to the edge of a lava tube whose roof had fallen in. It was 50 meters to the shadowed bottom. Even in lunar gravity the fall would be fatal. She swayed on the edge, having trouble breathing. Her mouth was dry, and her eyes itched.

Someone grabbed her arm and pulled her away. "No," his voice came over her ear button, as close as her own thoughts. It was Jack. He wrapped her in a bear hug, drew her back. He made her return with him to Fowler, to eat a meal, to take some pills, and sleep for 14 hours.

After that Eva no longer tormented herself with impossibilities. Jack stayed with her every minute of her time on the surface. Despite her headache, she still hoped Carey's body would turn up so she could figure out what had happened. But when a further week of searches still brought nothing, she asked that they be called off. The official inquest ruled Carey missing, presumed dead by hazard of fortune.

She turned to her work. The project was her only hope now. It was more than a matter of demonstrating the value of Cousins' science. Over the next months, the first assemblies using scans of organic compounds were completed. They produced edible soy protein and worked their way up toward apple sauce.

At meetings in the boardroom that looked out over the green fields of Fowler basin, the other matrons watched her out of the corners of their eyes. Eva controlled her voice, operated her body as if by

"The only reason we came here is because

She brushed her hand over his penis, and it stiffened. He said nothing, but eventually his hand came up to touch her hair, and then he pulled close and made love to her with an intensity that left her breathless and relaxed. He fell asleep beside her, and she lay watching the plate and the apple slices in the faint light. Soon, she thought, soon, they would be able to reproduce anything. She would prove that the Cousins were not some backward-looking, female-dominated hive. They would stun the world. Dreaming of this, Jack's arm around her, she fell asleep.

In the morning Carey had not returned.

Over breakfast—Eva finished the apple, now turned brown—she asked Roz what had happened after hockey practice. After denying anything, Roz finally admitted that Carey and some others had used the cover of the festival to sneak out of the colony onto the surface. The "First Imprints Club." In the dead lunar surface their markings in the dust would last as long as if etched in stone.

That sounded like Carey, right down to the wasting of water. Eva called Carey's friends. She discovered that Carey had left them at the

remote. Everything is normal, she told herself. Some mornings she would wake and listen for Carey thumping around the apartment, only to hear silence. She hid his pictures. Although she would not empty his room, she closed its door and never went inside. She went to watch the hockey team play. Other Cousins sat beside her and made a show of treating her normally.

Hockey was such a violent game—a boy's game. Had the Cousins adopted it for that very reason, to go against the perception that women were soft? Eva watched Roz throw herself around the ice like a demon. What would drive such a shy girl to compete so hard?

At night she lay awake and thought about Carey. She imagined him out there on the surface, running out of air. What was it about boys and men that they always took such big risks? You couldn't protect them. If you tried to, they got sulky and depressed. She had never questioned the place the Cousins had prepared for boys in their world, how their aggression and desire for dominance had been thwarted and channeled. Keep your son close; let your daughter go,

the homily went. Had she been fair to Carey? If she had him back with her this minute, could she keep herself from smothering him?

Jack went back to his own work: His team planted a copse of junipers, piñon, sage, and wildflowers on the east slopes of Fowler, hauling loads of their new soil that promised a better growth rate than the chemically prepared soils. He came home each night with dirt under his fingernails, scrubbed himself raw in the shower and fell into bed exhausted. Jack and Eva had not made love after that night Carey disappeared. At first Eva had no desire, and then, after her need returned and she might have felt it a comfort to have Jack hold her in his arms, he was so depressed by Carey's loss that he would not touch her. Eva saw that worrying about her had taken Jack away from Roz.

"I'm sorry," she vowed to Jack's sleeping form one night. "I can do better."

Since Carey's disappearance, Roz spent less time at home. Eva saw the pain in Jack's eyes as he watched Roz. She wondered what it must be like for Roz, to have this single strong male presence always there in her life. She owed Roz and Jack better than she had been giving, and the effort to engage them would help her stop thinking about Carey.

She arranged for Roz to spend her second-semester practicum in the colony's materials cooperatives. What to do about Jack's relationship to Roz was harder to figure out. Eva was a physicist, and had never paid much attention to the theories of Nora Sobieski and the other founders. It wasn't as though a man taking an interest in his daughter's upbringing was necessarily unnatural. But Eva realized that—just like her with Carey, out of his fear of losing Roz—Jack ran the risk of smothering her. Keep your son close; let your daughter go: Whether Jack could see it or not, it was time for Roz to begin to find her own place in the world.

Jack had taken to bringing home chard and romaine lettuce and carrots from the gardens. He brought a potted juniper for the balcony where they ate their meals. There one night at dinner Eva suggested to Jack that Roz move out.

Jack looked frightened. "She's only 14, Eva."

"If she doesn't begin to break free now she will have a much harder time later."

"I understand that. It's just—it's not the way she grew up. She and I haven't been here that long. And with—with Carey gone..." his voice trailed off.

Eva watched him. "Jack, I know I've been distant. I know it's been hard for you. If you don't want to be alone with me, I'll understand. I just hope you won't live with Roz."

"For pity's, Eva! Don't you believe in love?"

She was taken aback. "Of course I do." She poked her fork at her salad.

"Well, I love Roz. I love ... I love you."

He said nothing. He seemed more sad than angry. They ate in silence. After a while he asked her, "How's the salad?"

"The best I've ever tasted. And the pine nuts—are they from the new trees?"

"Yes," he said.

"The juniper smells wonderful."

"It's yours," he said. "I grew it for you."

TRANSFORMATION

When Roz told Jack about Carey's plans to meet the First Imprints Club, Jack picked up Carey's pressure suit. He laid the suit on the floor, adjusted it so that the locator lay flat against the concrete, and ground his heel into it until the chip snapped. "OK," Jack said. "You take his things and lose them some place on the surface where they'll never be found."

Roz knew that Jack's real reason for rushing her out was to keep her from seeing him dispose of Carey's body. She did not object. She stuffed Carey's clothes into the suit, sealed it up and, while her father turned back to the body, headed for the airlock.

"Wait," Jack said, "take this."

Fearfully, she turned. Jack had taken something from Carey's hand. It was Carey's ring.

She shoved the ring inside her own suit, then hurried through the airlock onto the lunar surface.

The shadows of lunar afternoon lay precisely as they had when she had entered the lab an hour before, a girl seeking to apologize to her dad. Between then and now, something had broken.

Jack had looked so surprised, so guilty—so old. The skin beneath his eyes was dark and papery, as if he hadn't slept in a week. Had he looked this tired when she had argued with him in the plaza? It made her wonder just what had been going on all this time. How could Jack kill Carey? Had he been so near to breaking all along? As she shuffled across the humped, dusty surface, Roz fought to keep from crying again at the awfulness of Carey's death and the precariousness of their situation.

For most of her life, it had been just her and her father. Roz's mother Helen had been a graduate student in plant pathology when Jack met her at Purdue. Roz's first memory was of sitting in the bathtub as her mom taught her to count on her toes. When Roz was six, her mother's increasing bouts of depression broke up the marriage. Helen had custody of Roz for more than a year before Jack rescued her, and Roz remembered that year vividly: afternoons hanging out with the kids in the neighboring apartment, suppers of corn flakes, Helen coming back from her classes unhappy, Roz trying to wake Helen to get her to work in the mornings, Helen shouting at Jack every time he came to pick Roz up for visits. When Jack had stolen

you couldn't get a job back on Earth."

Eva felt out of her depth. What did he mean when he said the word "love"? She looked into Jack's handsome face: blue eyes, curly blond hair, square jaw. How much, when he looked so hurt, he reminded her of Carey. Jack watched her intently. He was trying to communicate something, but she had no idea what it was.

"I know you love us," Eva said. "That's not the question. But if Roz is ever going to fit in here, she needs to begin to network ... I might even say the same for you."

"Network." He sat still as a stone.

He acted so wounded; he was putting her on the spot. Was this about sex? "I'm not trying to push you away, Jack. It's not me who's been turning away every night in bed."

"I realize that," he said defensively. "I thought that you were still grieving for Carey."

God, she was no good at this interpersonal stuff. She looked away. She tried the salad grown from the gardens he and his team had planted. "Let me handle my grief in my own way," she said.

Roz away, though he never said anything bad about Helen, Roz felt that she would never miss her mother again.

Now Roz wished she knew where Helen was, what she was doing at just that moment. What had she gone through when she was 14? Nothing as bad as this.

As she moved away from Fowler across the lunar surface, Roz tried to stay to the shadows. But there was little chance of anyone spotting her. What she needed to do was lose Carey's suit somewhere that nobody was likely to find it for 30 or 40 years.

It should not be so hard. These were the rumpled highlands, a landscape of hills, ridges, craters, and ejecta. Around the colony the ground was scuffed with a million bootprints. Roz hid hers among them, bouncing along below the eastern rim of Fowler.

She then struck off along a side track of footprints that aimed northeast. A couple of kilometers along, she broke off from the path and made a long leap to a rock scarp uncovered with dust. She landed clumsily but safe, and left no boot marks. She proceeded in this direc-

tion for some distance, aiming herself from rock to rock to leave as few footprints as possible. The short horizon made Roz feel as if she was a bug on a plate, nearing the edge of the world. She kept her bearings by periodically noting some point ahead and behind so that she would not get lost. That was the biggest danger of surface hopping, and the source of the rule against ever doing it alone. It would be easy to explain Carey's disappearance as an intoxicated boy getting lost and running out of air. A broken radio, a faulty locator.

A kilometer on, Roz found a pit behind a group of ejecta boulders. Deep in the shadow on the north side of the largest, she dug away the top layer of regolith and stuffed the suit into the pit. She shoved the dirt back over the suit. By the time she was done, her hands were freezing. She stood back on a boulder and inspected the spot. She had kept most of the scuffs she'd created to the shadows, which would not change much for some time in the slow lunar day. Roz headed back along the path she had come, rock to rock, taking long strides in the low gravity until she met the traveled path again. Up above her, a third of the way across the black sky from the sun, angry red Mars gleamed beside Jupiter like an orange eye.

Her air supply was in the red when she reached Fowler's north lock. She was able to pass through without seeing anyone; the festival was still going strong.

Just act normal. Roz tried to focus on school. The hockey game against Shackleton was postponed, but the practices continued. When it became obvious that Carey wasn't coming back, Maryjane moved up to take Carey's place in Roz's line. At night Roz squeezed her eyes shut, pressed her palms against them to drive thoughts of Carey's body from her imagination. She would not talk to Jack about it, and in his few hurried words with her he never spoke of that night.

Roz hated hearing the sound of Jack's voice when he talked to Eva or anyone else, so casually modulated, so sane. Just act normal. When he spoke with Roz his voice was edged with panic. Roz vowed that she would never in her life have two voices.

Maybe Eva had two voices, too. After the searches were ended, Eva seemed distressingly normal. Roz could tell Eva was upset only by the firmness with which she spoke, as if she were thinking everything over two or three times, and by the absolute quality of her silences.

At first Roz was afraid to be around Eva, she seemed so in control. Yet Roz could tell that at some level Eva was deeply wounded in a way she could not see in Jack. The only word Roz could think of to describe Eva was a word so absurdly old fashioned that she would have been embarrassed to say it aloud: Noble. Eva was the strongest person Roz had ever met. It made Roz want to comfort her—but Roz was too afraid.

Eva spent all of her waking hours out

Roz stowed her suit in an empty locker, set the combination, and walked back around the rim road toward Eva's apartment—the long way, making a three-quarter circuit of the crater. On the southeast slope she stopped and watched the lights of the festival. When she finally got home, she found an empty glass sitting on the living room floor, and the door to Jack and Eva's room was closed. She went to her own room, closed her door, undressed. There she found Carey's ring in her pocket, warm from the heat of her own body.

THROUGH ALL OF EVA'S QUIZZING OF ROZ THE NEXT MORNING, JACK sat drinking juice, ignoring them both. Roz was stunned by how calm he looked. What went on inside? She had never thought that there might be things going on inside her father that were not apparent on the surface.

Then the searches began. Over and over Roz had to retell her story of parting with Carey at the festival. At just what time had she last seen Carey? What had Carey said? In what direction had Carey gone? Jack threw himself into the "search"—but whenever Roz looked at him, she saw that he was watching her.

As the search stretched beyond the first days, Carey's friends came up and sympathized with Roz. For the first time kids who had held her at arms' length confided in her. They shared their shock and grief. Roz supposed that, from the outside, her own terror looked like shock. Colony security used volunteers from the school in the searches, and Roz took part, though never in the northeast quadrant. Every time one of the parties returned she was petrified that they would come back with Carey's pressure suit.

Near the end of the third day, Roz was sitting in the apartment, clutching Carey's ring in her hand, when Jack brought Eva back with him. Eva was so sick Jack almost had to prop her up. Jack fed Eva, made her take some pills, and go to sleep. He came out of their room and shut the door.

"What happened?" Roz asked.

Jack pulled Roz away from the door. "I caught Eva on the edge of a precipice. I think she was about to jump off."

"Oh, Jesus! What are we going to do?"

"She'll be OK after she gets some rest. We need to take care of her."

"Take care of her! We killed her son!"

"Keep your voice down. Nobody killed anyone. It was an accident."

"I don't think I can stand this, Dad."

"You're doing fine, Roz. I need you to be my strong girl. Just act normal."

The weeks passed, and they resumed a simulation of ordinary life. Eva took an interest in Roz that she had not while Carey was still alive. For Roz's second-semester practicum, Eva arranged for Roz to work successive months in the colony's four materials cooperatives, Air, Water, Agriculture, and Fabrication. Roz was glad to spend more time out of the apartment.

With Air, Roz worked outside in the southwest industrial area, helping move lunar regolith to the grinder. Various trace elements, including the H_2 used in fusion reactors, were drawn off and saved. After grinding, the regolith was put in a reduction chamber with powdered graphite and heated to produce carbon monoxide, which was reintroduced to the regolith in a second chamber to produce CO_2 . The carbon dioxide was separated by a solar-powered electrochemical cell. The carbon was recycled as graphite, and the O_2 liquefied. The excess was sold to other lunar colonies or traded for nitrogen.

With Water, she worked at the far end of the ice cavern, where the ice was crushed, vaporized, distilled, and refrozen. Some of the water was electrolyzed to provide oxygen and carbon, a rare element on the Moon.

With Agriculture, she shoveled sheep and guinea pig shit, and moved chicken wastes to recycling for fertilizer.

With Fabrication, she did quality control for the anhydrous production of fiberglass cables coated with iron. Any contamination of the fiberglass with water would compromise its strength and durability. Structural materials were one of the colony's other major exports.

Everything she learned during her practicum was so logical. Everything she felt when she was in the apartment with Eva and her father was insane. While she worked, when she could forget the expression on Jack's face when she'd found him standing above Carey's naked body, the colony felt like home. The minute she thought about the place that was supposed to be her home, she felt lost. Looking down from the balcony of their apartment on interior of the crater, she saw the spire that supported the dome as a great tree spreading over the Cousins' lives. Behind her she heard Jack's and Eva's voices, so human, so mysterious.

Eva quizzed Roz every few days about the practicum. Because they spoke only about the practical issues of running the Society, these conversations were a relief to Roz. She thought they were a relief for Eva as well. Roz could ask any question, as long as it was about engineering. Eva would lean next to Roz over the tablet and click through diagrams of chemical syntheses, twisting the ends of her hair in her fingers.

One evening as they were going through one of these sessions, Jack exploded. Afraid that he might say something that would make Eva suspicious, Roz went with him for a walk to talk over what was bothering him. When she told him she was thinking of moving out, he threatened to tell Eva what had happened to Carey. His paranoia was so sharp in the air that she could smell it. She begged him to be quiet.

Roz realized that she was trapped. It would be safer for her and Jack both if she moved out of the apartment. Raisa was still looking for a roommate, and it would only be a matter of a few days for her to make the arrangements and move her things. But there was nothing she could do.

ONE DAY LATE IN ROZ'S PRACTICUM, EVA CALLED HER TO THE FABRICATION research lab. Roz realized that it was not an accident that the last stop on her practicum tour was Fabrication, and the last stop at Fabrication was research, Eva's own area. Roz had a sudden dread that Eva knew something, that ever since the festival she had been setting a trap, which was about to spring.

Like the biotech lab that her father worked in, in the interests of preventing contamination Eva's nanotech lab was separated from the colony. At the end of the northwest lava tube, Roz suited up and passed through a lock onto the surface. It was months since Carey's

"All three of these apples were assembled from the same quantum scan. We scanned the original apple six months ago. These two apples were assembled from the QNSA yesterday, the other a week ago. If we load the right raw materials into the assembler, we can create as many identical apples as we like."

"That's amazing!"

"Yes. It's too expensive a way to make apples, though. In fact, there aren't many things that would justify the expense of reproduction by QNSA."

Eva took the apples back. She put the old one and one of the new ones back into the refrigerator. Then she polished the third on her sleeve and took a bite of it. Chewing, she handed it to Roz. "Try it."

Roz took a bite. It tasted crisp and tart. Another lab worker came in and got a squeeze bottle out of the refrigerator. He nodded to Eva, smiled at Roz, and went out.

"I hoped at first that I might get over the loss of Carey," Eva said. She looked through the window at the big blue marble. "I told myself that he was only one person, that we all die eventually, that it was his recklessness that had killed him and I never wanted him to be other than he was." She brushed the back of her hand against her eye. "But a son is not supposed to die before his mother. Everything looks different afterward. It's all just a collection of atoms."

on the surface with the search parties.

disappearance, and full night now. Mars and Jupiter were no longer visible; Venus shone brightly on the horizon. She followed a string of lights to the lab, entered, and pulled off her suit.

Eva met her at the check-in. "Thank you for coming, Roz. Come with me. I want to show you the Quantum Nondestructive Scanner Array."

The QNSA lab was the largest in the facility. The scanner looked like nothing so much as a huge blue marble, the size of an elephant, divided at the equator. Eva had the technicians lift the upper hemisphere to expose the target area. "What we do here is pull a fast one on the universe. We bypass the uncertainty principle on the sub-atomic level by measuring test subjects at below the Planck-Wheeler length."

"I don't know that much physics," Roz said.

Eva put her hand around Roz's shoulder. Despite the affectionate gesture, she was not smiling. "We've made huge strides in the past six months."

"What's it for?"

"There are a hundred purposes—some of them quite revolutionary. On the most basic level, if we can scan to sufficient accuracy, and if the assembler team can succeed in producing a programmable assembler that can use the scan—then we will have created the most flexible manufacturing system in history. Any object we scan could be duplicated in the assembler."

"Isn't that expensive?"

"Smart girl. Yes, it is very expensive—of technology, energy, and time. It doesn't make economic sense to use a system like this to manufacture simple things, like, say, an electric motor. That would be like running an MRI to check whether there's gum in your pocket. But for more complicated things—organic compounds, for instance—it holds fascinating possibilities. Let me show you something."

She took Roz into a side room separated from the lab by a large room. In the corner was a refrigerator. From it Eva took out two apples. She handed them to Roz. "What do you think of these?"

Roz looked them over. They were the same size, the same shape. Both felt cool in her palms. In fact, they felt exactly alike. She looked at them more closely. There was a spray of freckles near the stem of the apple in her right hand. She held the other next to it, turned it until they were in the same position. An identical spray of freckles marked the second apple. "They're the same."

"Yes. Now compare this." Eva pulled a third apple from the refrigerator. This one was past its prime; its skin was darker and softer, and it smelled sweet. Yet it had exactly the same pattern of freckles as the other two.

Eva turned to Roz. "How does the apple taste?"

"Good."

"I'm glad. Now, Roz, I want to tell you what I'm going to do. It's something that no one's ever done before. Because of that it's not a crime yet, but if it doesn't become so common as to be ordinary in the future, I'm sure it will become a crime."

"What are you talking about?"

"Some months ago, the project had reached a stage where we could scan a living organism. We scanned several guinea pigs, even a sheep. One night, while the lab was empty, I brought Carey here and scanned him."

"I've been waiting until we worked the bugs out of the assembler. Three days ago we recreated one of the guinea pigs from a four-month-old scan. Do you know what that means?"

Roz held her breath. "I think so."

"If that guinea pig suffers no aftereffects, I am going to reconstitute Carey. I want you to help me."

The sky opened up and a torrent of pure joy shot down to fill Roz up. She could not believe it. She hugged Eva, buried her head against the tall woman's breast. It was a miracle. It was the way out.

FIRE

Nematodes made up most of the animal life on earth, by mass, Jack reminded himself. They were everywhere. The number of parasitic varieties was minuscule compared to the beneficial ones. Nothing to worry about.

But his hands itched. And his skin burned.

It had not taken Jack long to cut up Carey's body, run it through the reduction chamber, mince the remains in the crusher and mix them into the project soil. He had hosed down the crusher and the floor of the lab. Fire, earth, water. Within a week there was nothing left of Carey but his elemental chemicals in the dirt.

Still, images of Carey were imprinted on the inside of Jack's eyelids. I'm a freakshow, he thought a dozen times each day, climbing down the slope to the crater floor, pruning seedlings in the greenhouse, sitting on the edge of the pool in Sobieski Park. Lying in bed with Eva. I'm a lethal male in a society constructed to prevent males from going lethal. I didn't even know it was happening. I'm a fucking maniac and no one can tell.

No one had noticed anything—at least he didn't think they had. He had a tough afternoon the day they transferred the test soil to the

pilot project site on Fowler's east slope. He insisted that he amend the soil himself, plant the junipers with his own hands. He wore protective gloves. When Amravati said something about it, he replied quickly, "Don't want to take a chance with these new bugs."

"If there are any bugs we don't know about, then we're all in trouble," she said.

The seedlings flourished. Growth rates were elevated as much as 15 percent. Within three months the project had progressed enough to schedule a tour by the Board of Matrons. Eva and the others strolled over the slopes among the low, fragrant growth. As Eva walked over the ground that contained all that was left of her only son, a wave of heat swept over Jack. His face felt flushed; his forehead burned.

The Board approved the project. The next week they voted Amravati a commendation, with special notice of Jack's contribution. "If you don't watch out, Jack, you're going to get stuck here," Hal Keikoson said.

"What?" he said.

Hal smiled at him. "I mean you're becoming a Cousin, cousin."

A Cousin on the outside, a stranger within. There were lots of difficult aspects to the aftermath of Carey's death, among them the problem of Eva. For example, despite the fact that, during the search, he had saved Eva's life out on the edge of the precipice, it was impossible for him to touch her in bed. He had discovered how much her eyes were like Carey's. Lying beside her at night, hands burning, pretending to sleep until he heard Eva's faint snore, and pretending to sleep after that for fear of waking her, Jack felt more alone than he had since he was five years old. One night he heard Eva stir beside him, rise up on one elbow, and watch him. He heard her whisper, "I'm

Jack wanted to argue, but was intimidated by Eva's presence. Eva had put this idea in Roz's head. "Come with me," he said to Roz. "We'll take a walk. Do you mind, Eva? We need to talk this over father to daughter."

"Go right ahead."

Roz looked sullen, but she came with him. They descended from the apartment, down the pathway toward the crater floor. The inside of the dome was a brilliant cloudless sky. On the field below them a harvester sprayed soybeans into a hopper truck. "Is this because of Carey?" Jack asked.

Roz crossed her arms over his chest and looked at her feet. "I don't want to talk about Carey," she said.

"You know it was an accident, Roz, I—"

She bounced on her toes and leaped five feet into the air, coming down well ahead of him. A woman going the other way looked at her and smiled. Jack hurried to catch up.

Roz still wouldn't look at him. "I will not talk about Carey, Dad. This isn't about him. I'm 14, and a Cousins girl at 14 who won't leave home is sick." She bounced again.

He didn't know what to say. He knew she was lying, that it had to have something to do with Carey. But he wasn't going to beg.

"You're going to tell Eva the truth," he said when he caught up.

"Don't be stupid!" Roz said. "I've given up too much for this. I don't want to move again."

Stupid. How stupid he had been to come here. "I brought you here to keep us from drifting apart."

"Dad, did you think I was going to be with you forever?"

He rubbed his palms up and down his forearms, but that only made the itching worse. "Will you call me?"

A third of the way across the black sky

sorry. I can do better." What did she have to feel sorry about? How could she possibly be asking his forgiveness?

The colony clinic prescribed a salve for his skin that did nothing but make him smell like sulfur. I'm the lunar Mephistopheles, he thought. He resorted to magic: If some part of Carey was coming back to torment Jack, maybe bringing Carey home would mollify his ghost. Jack potted one of the junipers and set it up on their balcony. He fed Eva lettuce from the greenhouse to see what effect it would have on her. It made her suggest that Roz should move out.

Roz. That was the worst thing, the absolute worst. Jack was stunned that Roz had so readily put herself at risk to save him. Though it was, at some level he had difficulty admitting, immensely gratifying, and removed any doubt he had ever had that she loved him, now he could not look at Roz the same way. He was in debt to his daughter, and like a boulder that they were both chained to, that debt stood between them at every moment.

When Roz started her practicum in Fabrication, she began to spend more time with Eva. Jack watched them joke together as they sat in the apartment and went over the steps in the manufacture of building glass. Their heads were so close together, Roz's red hair and Eva's brown. The skirl of Roz's silly, high-pitched giggle, for some reason, made him want to cry.

"You laugh too much," he said.

They looked up at him, dead silent, identical astonishment on their faces.

"Can't you keep quiet?" he said.

"Sorry, Dad," Roz muttered. "I didn't know I wasn't allowed to laugh." She pushed the tablet away from her. "I have something I need to tell you."

Jack tried to keep the panic out of his voice. "What's that?"

"I think I'm going to move out. There's an apartment that Raisa and I can move into opening up in the old section of the south wall."

"Raisa? I thought you didn't even like her."

"I think I was just projecting; she's really a good person. She's never mean."

"I'll see you every day."

Jack stopped following her. Roz continued down the path toward Sobieski Park, and did not look back.

"What do you think, Carey?" he whispered aloud as he watched his daughter walk away. "Is this one of those Earth things? One of those sexual ownership practices?"

Jack tried to imagine what it would be like to be alone with Eva in one of the largest apartments in the colony. Perhaps it would not be so bad. He could plant a dozen junipers on the balcony. He could prepare all their meals. Hell, he could bring in a bed of Carey's soil and sleep in it.

He began meeting Jamira Tamlasdaughter in the sauna at the gym. They would claim one of the private alcoves and fuck. The heat of the sauna made him forget his burning skin. There was nothing wrong with it. There was nothing right about it. Roz was always out. Eva stayed away even longer at the labs, sometimes not coming back at night until he was asleep. The mysterious absences grew until one night it had been a full 24 hours since Jack had last seen either Eva or Roz. It was fertile ground for worry. Someone had found Carey's pressure suit. Roz had not hidden it well enough, and now she was in trouble. Or Eva had tricked her into an admission. She had broken down, given in to guilt.

His phone rang. He touched the contact on his wristward.

"Dad? Can you meet me at Fabrication Research?"

Roz's voice was charged with excitement. He hadn't heard her sound so young in months. "What is it, Roz?"

"You won't believe it. All our troubles are over! We're resurrecting Carey!"

"What?"

"The assembler. I can't tell you more now, someone might hear. Come at 0300. If anyone asks, tell them that you're going somewhere else."

"Is Eva there?"

"Yes. I've got to go now. See you at 0300."

"Roz—"

He felt sick. Resurrecting Carey? Roz must have told Eva what had happened.

Still, what could he do but go? Jack paced the rooms for hours. He left after somatic midnight. The perimeter road to the north airlock was quiet; there was a slight breeze, a hum of insects around the lights. He told the lock attendant that he was going to biotech.

When he sealed up his suit he felt he could not breathe. He checked the readouts repeatedly, but despite the evidence that nothing was wrong, he felt stifled. Sweat trickled down his neck into his collar.

Outside the Sun hammered down and the glare of the baked surface hid the stars. He upped the polarization on his faceplate, but still his eyes hurt. He followed the road from the airlock, between the fields of solar collectors, to the ramp entrance to the Fabrication Research Lab. He passed through the radiation maze, opened the outer door of the lab airlock. When he stripped off his suit his shirt was soaked with sweat. He wiped his arm across his brow, ran his fingers through his sweaty hair. He waited. He did not open the inner door.

And if, by some miracle, they did recreate Carey? Roz said that all their troubles would be over. They could go back to who they were.

Fat chance. He had hoped that coming to the Society would offer Roz a freedom that he could not earn for her on Earth. No one on the Moon knew him. And even if he did fail again, among the Cousins a father's faults would not determine how others saw his daughter. Roz could be herself, not some reflection of him.

As he stood there, poised before the inner lock door, he had a sudden memory of Helen, on their honeymoon. On the beach at St. Kitts. Helen had surprised him by wearing a new bikini, so small that when she pulled off her shorts and T-shirt she was clearly self-conscious. But proud, in some way. He remembered feeling protective of her,

HAPPY ENDING

When the indicators showed the airlock was occupied, they waited for Jack to enter the lab. Instead, after a few minutes the outer lock of the airlock opened and he left again. Roz was worried.

"I'm going to see what he's up to," she told Eva.

She pulled on her pressure suit and waited the maddening few minutes it took the lock to recycle. As soon as pressure was equalized she slid open the outer door and ran up the ramp. There was no sign of her father on the path back to Fowler. But as she followed the footprints away from the ramp, she spotted a figure in the distance heading out toward the hills.

Roz hurried after, skipping as fast as she could without lurching off onto the collectors.

When she caught up, he was on his knees in the shadow of a big rock, jerking about spasmodically. The strangeness of his motion alarmed her. She had never seen anyone move like that. Before she could reach him he slowed, stopped, and fell, slowly, onto his side. Calmly, quietly. Less like a fall, more like the drift of a feather. She rushed to his side, and saw that he had broken the seal on his helmet.

"No!" she screamed, and the sound of her voice echoed in her ears. Jack's face was purple with broken blood vessels, his eyes bloody. He was dead.

High-G, they called her, and it was a good thing, as she carried her father's body back to the Fabrication lab.

IT WAS ROZ'S IDEA TO PUT JACK'S CORPSE INTO THE ASSEMBLER, TO add the materials of his body to the atoms used to recreate Carey. There would be hell to pay with security, but Eva agreed to do it.

from the sun, angry red Mars gleamed.

and puzzled, and a little sorry. It hit him for the first time that she was fighting her body for his attention, and how sad that must be for her—on the one hand to know she had this power over him that came simply from her sexuality, and on the other that she, Helen, was someone completely apart from that body that drew him like a magnet. For a moment he had seen himself from outside. He'd been ashamed of his own sexuality, and the way it threatened to deform their relationship. Who was she, really? Who was he?

At the time he had taken her in his arms, smiled, complimented her. He had felt sure that with time, they would know each other completely. How pathetic. After the break-up, he had at least thought that he could know his daughter. That was why he wanted Roz—to love someone without sex coming in the way. To love someone without caring about himself.

How stupid he had been. Whether they'd come or not, inevitably she would have seen him differently, or been destroyed by trying not to. Whether he'd killed Carey or not, Roz would have to fight to escape the mirror he held up to her.

With a sick feeling in his gut, he realized he had lost his daughter.

He was so hot. He was burning up. He shut his eyes and tried not to see or hear anything, but there was a roaring in his ears like a turbulent storm, and his eyes burned and flashed like lightning.

He would feel better if he went outside. Instead of opening the inner door, he put his pressure suit back on and opened the outside door. It was bright and hot out on the surface—but in the shadows of the rocks it would be cool. He stepped out of the shadow of the radiation baffle, up the ramp to the dusty surface. Instead of following the path back to the colony, he struck off between the rows of solar collectors toward a giant boulder that loomed on the horizon. As he walked, on his sleeve keyboard he punched in the override code for his suit's pressure failsafes.

By the time he had reached the chill shadow of the rock, all that remained between him and relief was the manual helmet release. He reached up to his neck and felt for the latch. He was so hot. He was burning up. But soon he would be cool again.

The assembly took seven days. When the others at the colony discovered what they were doing, there was some debate, but they let the process continue. At the end of the week the fluid supporting the nanomachines was drained off, revealing Carey's perfect body. Carey shuddered and coughed, and they helped him out of the assembler.

To him it was six months earlier, and his mother had just completed his scan. It took him a long time to accept that he had not fallen into some dream only seconds after he had been placed in the marble, to awaken in this vat of warm fluid. He thought he was the original, not the copy. For all practical purposes he was right.

Later, as they were finding a pressure suit they could adapt to Carey's size to take him home, he asked Roz, "Where's Jack?"

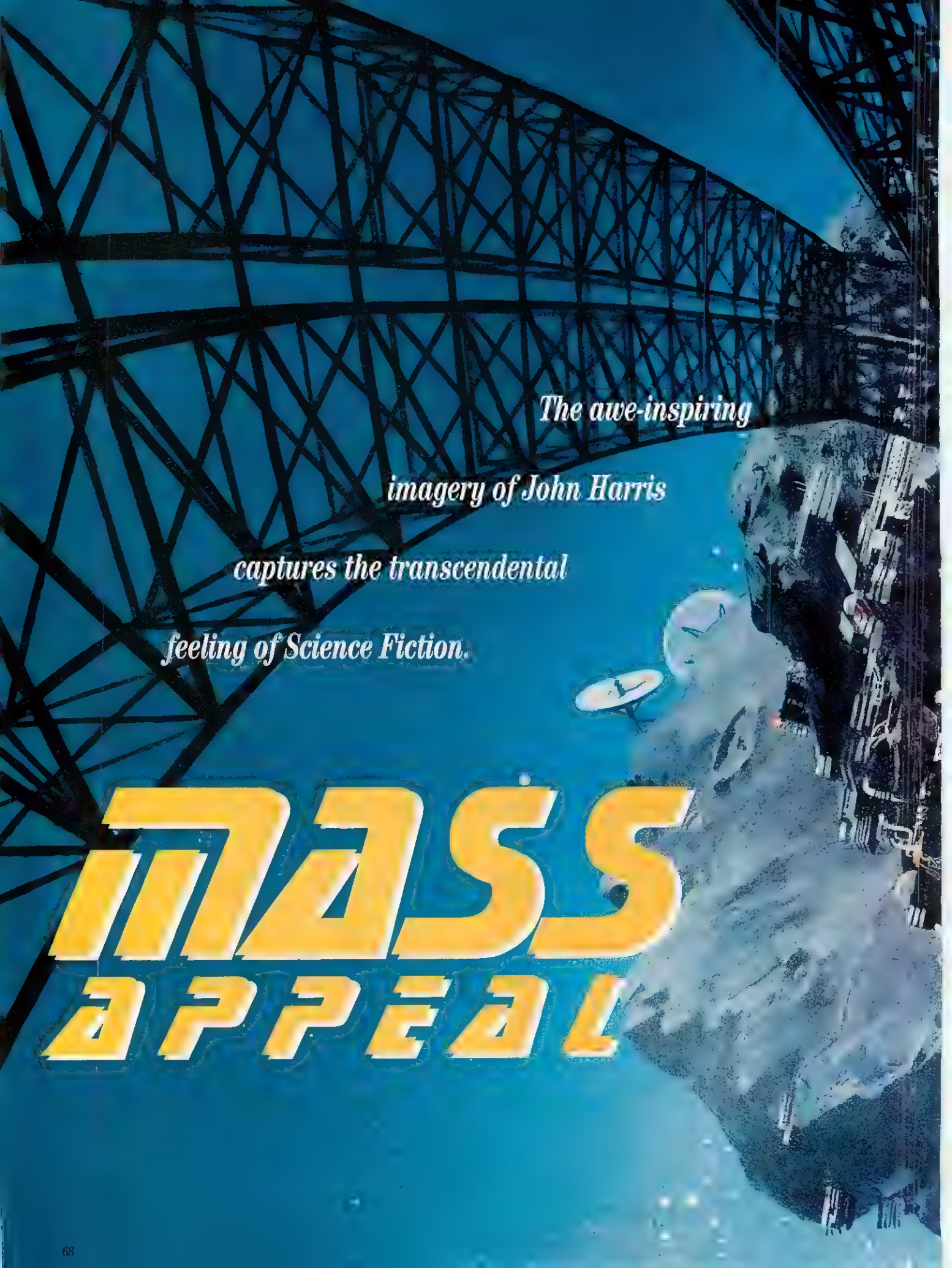
THE JUNIPER TREE

All this happened a long time ago.

Nora Sobieski founded the Society of Cousins to free girls like Roz of the feeling that they must depend on their fathers or boyfriends for their sense of self, and incidentally to free boys like Carey of the need to prove themselves superior to other boys by owning girls like Roz. Girls still go through infatuations, still fall in love, still feel the influence of men as well as of women. But Roz and Eva in the end are actually in the same boat—a boat that does not contain Jack, or even Carey.

The young junipers stand ghostly gray in the night. The air smells fragrant with piñon. In the thin, clear starlight Roz can see wildflowers blooming beneath the trees—columbine, pennyroyal, groundsel. She sits on the slope and pulls Carey's ring from her pocket. The ring is fashioned into the image of two branches that twine around each other, each with no beginning and no end, each eternally separate from the other.

Roz holds the ring in the middle of her palm, wondering if she should get rid of it at last, knowing that she can never give it back and maintain the mystery of who her father was and how he died. □



*The awe-inspiring
imagery of John Harris
captures the transcendental
feeling of Science Fiction.*

MAS APPEAL



A painting by John Harris has haunted me since I first saw it, nearly 20 years ago. Done mostly in dark blues and grays, it shows a slight young woman walking away from us along a perilously narrow zigzagging wall to either side of which are vertiginous drops. Somewhere in the far distance are what appear to be the outskirts of a city; the structure nearest to us and her—although it is still far away when the only route to it is along that thin and dangerous path—is a temple. As soon as we look at the painting we're thrown into a ferment of speculation about the where and the when and the why of it all:

There is an off-planet feel to the image, yet the girl is human; there is a sense of great, almost timeless antiquity, but she is no shambling dawn-age primitive; and what in creation could have persuaded her to undertake her hideously dangerous ordeal?

It is a voluntarily accepted ordeal. We know this, yet there's nothing overt in the painting to tell us so—unless it's the color values, which suggest a profound tranquility. But at the same time

BY JOHN GRANT



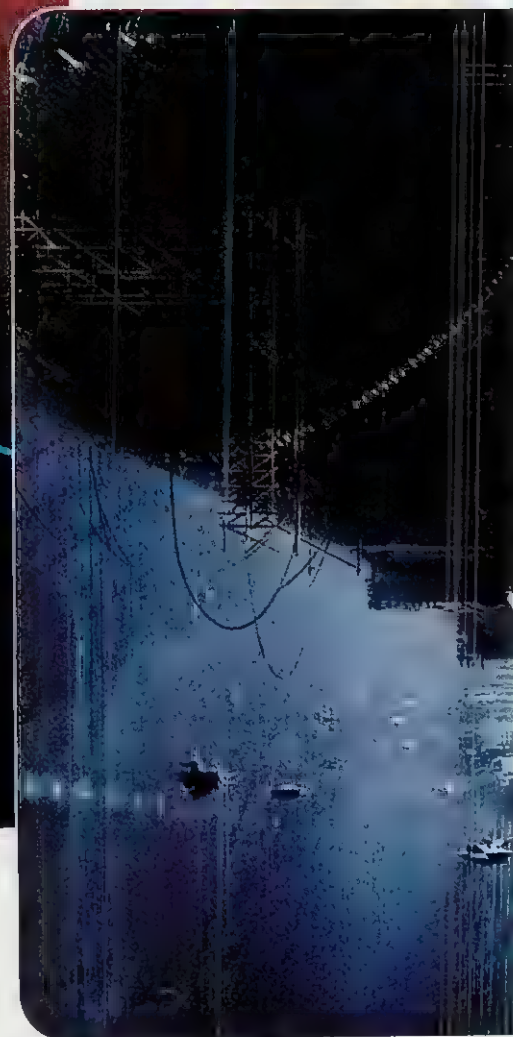
PREVIOUS SPREAD: Done as a cover for the 1983 Joe Haldeman novel *Worlds Apart*, this conveys an astonishing sense of motion through the use of a still image.

THIS SPREAD, ABOVE: *The Chaos Equations* illustrates a recurring nightmare of the artist. **OPPOSITE TOP:** *Driftglass* was the cover for Samuel R. Delany's story collection. **RIGHT:** In *Construction of Spaceship*, Harris is concerned with mood.

there is a sense of considerable potential violence, the most immediate manifestation of which would be that this vulnerably naked human being might topple into those unseen depths, which seem infinite . . . except that we're fully aware that she *knows* she will not fall, that she'll make the transit safely to the distant temple, that either she has deliberately made herself unconscious of the infinite depths or she regards them as only a trivial concern . . .

As with so many of Harris's paintings, *The Zig-Zag Path* is not easily open to intellectual analysis, instead striking straight at the emotions. This seems an odd comment to find oneself making about any SF art, dedicated as it so often is to portrayals of future hardware and dramatic space battles; SF cities should surely be filled with gleaming hi-tech spires and glamour babes in space helmets,

**HE TOOK
TRY TO**



rather than the somewhat-rugged, unfinished structures of the city visible in *The Zig-Zag Path*. But then it seems odd to classify John Harris as a Science Fiction artist at all, even though much of his output has been dedicated to spaceships and the other paraphernalia of Hard SF. Because of the way that his images speak to the emotions rather than the intellect, their subject matter becomes secondary to the feelings they engender.

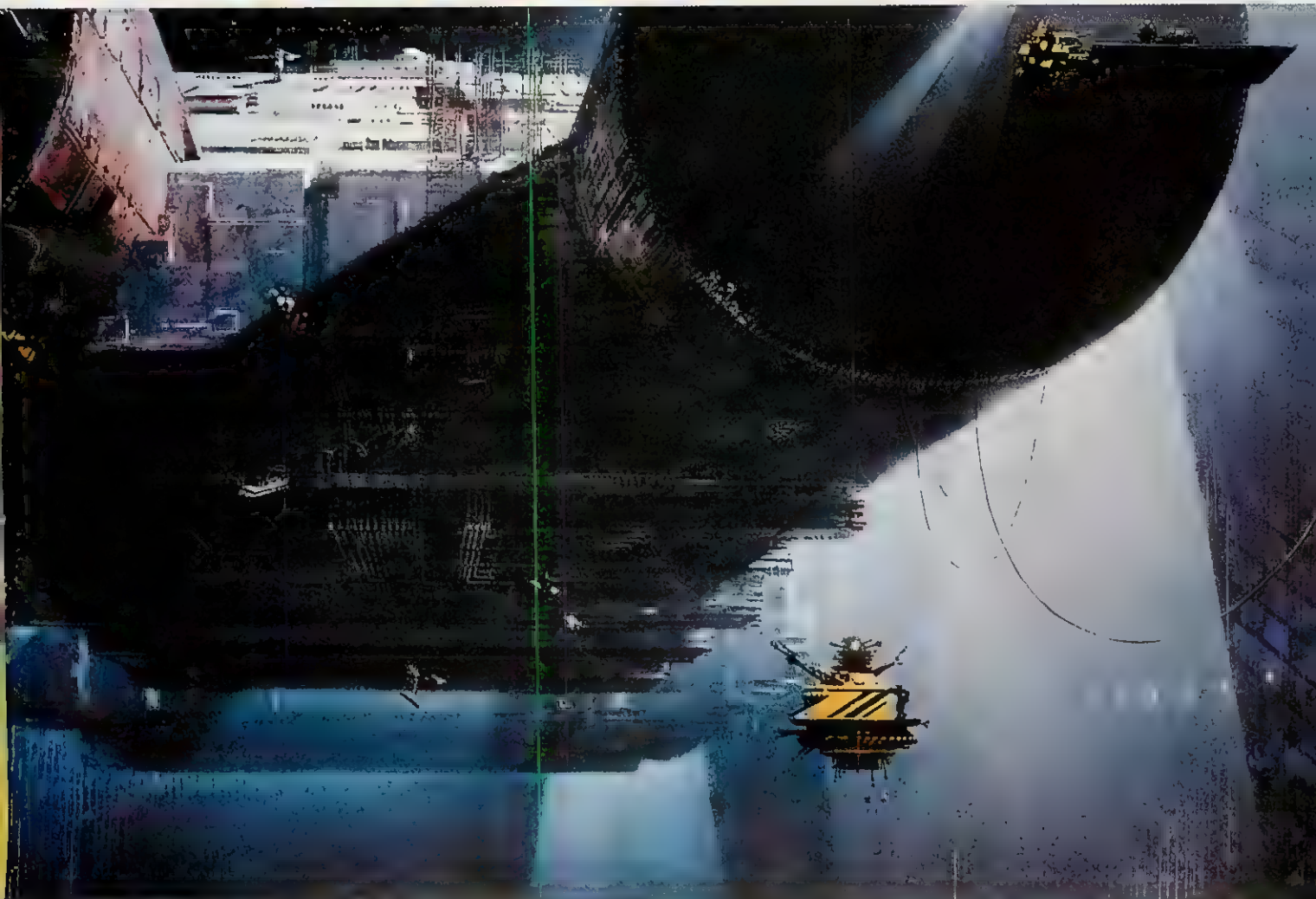
This is by design. In any conversation with Harris about his work, the word "feeling" comes up frequently, as if he were a portraitist of moods rather than a portrayer of objects and events. This attitude is reflected in one of his approaches to illustration (as opposed to his self-generated work): Having established the sense that he wants to convey, he commits random, abstract set of marks to the canvas and then, using appropriately evocative music as a catalyst, begins to extract from those marks any significant



designs he is inspired to find there. Only at the very last stage will he add a comparatively few lines and highlights to reify, or consolidate, a mimetic image. Until that final stage his entire effort has been devoted to capturing the *feeling* that he wishes to express, which feeling is almost inevitably conveyed to the viewer by the final artwork.

His order of priorities is exemplified by his comments on the cover for Joe Haldeman's *Worlds Apart*: "I was trying to convey the flavor of what I believe orbital space to be like. It's about a quality of *drift*. What I was trying to get across was a feeling of slow, almost balletic movement in which you're assuming, even though you're looking at a still image, some kind of parallax. Whenever I watch NASA films of orbiting craft, I'm tremendously struck by how you've got this huge background of the Earth moving ever so gently in a very steady fashion, while in the front you've got a much

TO RISING AT AN UNGODLY HOUR TO CAPTURE THE DAWN LIGHT.



BELOW: This bulging red star graced the cover of *Best of Star Trek 14*. **RIGHT:** A future city in space is revealed in *Astropolis*. **OPPOSITE RIGHT:** Harris depicts a future reconstruction of Stonehenge in *Crystal Henge*.



faster movement. It's this kind of eerie, floaty, drifty quality I was trying to capture. So it's very much a picture of what I think the *feeling* would be like if you were trying to match the speed of an object in space." Another SF artist might have talked in terms of orbital mechanics, but with Harris, as ever, the mood is central and the rest secondary.

Since the late 1970s, Harris has created over three hundred covers, of which about half have been for SF books. His training was fairly orthodox for a British artist: An enthusiastic art teacher at school, followed by a prediploma course at Luton and then a three-year degree course in Fine Art at Exeter College of Art & Design. With the exception of one tutor, whom he found inspirational, the teaching staff at Exeter were, in his estimation, more concerned with what was essentially navel-gazing than with such matters basic to the visual arts as *seeing*. They wanted the students to deconstruct, deconstruct, deconstruct, without any clear notion as to what could then be reconstructed.

For a long time he thought he'd gained nothing from the Exeter course, but that single tutor's work bore fruit: "It's only as a result of years of doing commercial work and working in the field that it dawned on me that actually it was very helpful. The amount of technical education I got was minimal, and my own course was more to do with an attitude toward





seeing and practicing the art of expressing what you see. It was a long time before I began to realize this was having a very marked effect on the way I produced pictures."

After college Harris did a few SF book covers, and then he abandoned art to spend some years in Europe studying with the Maharishi Mahesh Yogi and becoming himself a teacher of Transcendental Meditation. While staying in Switzerland he took to rising at an ungodly hour to try to capture the dawn light among the mountains surrounding Lake Lucerne. When he picked up his sketchbook for the first time in a long while he found that, as a result of his yogic training, he no longer had to think about such things as technique. His pencils and brushes did what he wanted them to without his having consciously to control them. This ability has stayed with him throughout his subsequent career.

Since his youth he had experienced a series of visions—visions of events of great power, or objects of colossal mass which were yet weightless. One vision that had always particularly affected him was of standing in an open place watching the Moon, which had approached to within the Roche Limit, breaking apart. These visions—and more of their ilk—now came flooding back, and he felt it important that he express them. He thus left the Maharishi and returned to England and his art.

Very soon he had assembled a portfolio of stunning images to present to agents. The first he approached, Young Artists (now called Arena), took him on at once, and within a matter of days Philip Dunn, of Pierrot Publishing, was signing Harris up to paint three visualizations of Blish's Okie cities. These impressed Dunn so much that he gave Harris a nine-month stipend to develop a painting project of the artist's own choice. As it turned out, Pierrot went under before the result—a set of paintings collectively called *Mass* and focusing on those visions Harris had had of huge but weightless structures—could be published; in fact, it's only in spring 2000 that a much augmented *Mass* series will see publication as a Paper Tiger book.

The pictures in the series are concerned with vastness—vastness both physical and temporal. An example of the far-future variety is the somewhat chilling *Crystal Henge*: "Brian Aldiss told me this picture summed up what he thought Science Fiction was about, which was very generous of him! What he said was that there were three elements he thought classic Science Fiction should have: It should have the human construct, the natural world, and a sense of the future." Harris's main notion here was that there might be a sort of universality of consciousness to which our remote ancestors, the builders of Stonehenge, were better attuned than we are; thus in the far future, when we rediscover that fundamental knowledge, we might be driven to rebuild Stonehenge, but this time out of crystal so that we could get the dimensions accurate to within millionths of an inch.

The main work in which he is currently engaged—outside illustration, where nowadays he is concentrating on landscape paintings for mainstream books—is a development from *The Zig-Zag Path*. That painting drew him to become interested in the city one can see in the farground, and the society which might inhabit that city—which, he determined, was built inside and in symbiotic relationship with an active volcano. The city is called *Fire*, and the *Fire* set of images and accompanying text record Harris's mental exploration of the city, the society, and the society's spiritual underpinning. The images, of which *Celebration of the Hive* is a dramatic example, represent perhaps the best work Harris has yet done. There are plans for book publication in 2001. And what of his plans after *Fire*? "At the moment all I can say is: 'More of the same!' And hopefully simpler, more powerful, more pure—that's how I would like it to go. All I can see about the future of *Fire* itself right now is developing it to the point that it's not only real and credible to everybody but something with which they can deeply identify. That's more important to me than anything, really." □

Daniel Langham was running out of
time, and time was all he had.

The Kings of ETERNITY

BY ERIC BROWN

Illustration by Dominic Emile Harman

■ ■ ■ ■ ■ LL MORNING DANIEL LANGHAM SAT ON THE PATIO, SHADED FROM the incendiary
■ ■ ■ ■ ■ Greek Sun by the canopy of vine leaves, and wrote.

■ ■ ■ ■ ■ Marsha returned from the village at noon. He watched her walk up the path
■ ■ ■ ■ ■ between the olive trees, the sight of her filling him with sadness, a pre-emptive
■ ■ ■ ■ ■ sensation of loss he recalled from many years ago.

She walked across the patio. "I'll be out all afternoon," she said in her mild New England
accent. "Painting."

The roll call of her ancestors included Senegalese slaves, Hopi indians, Inuits strayed
south, a Spanish grandmother, among others. Her skin was resplendent copper, her hair a
mass of spun jet.

"By the way," she said, almost casually, "there's a reporter in the village, looking for you."
His heart crashed. He found his voice. "You didn't tell him where...?"

"I didn't see him. Jim at the hostel told me. He was nosing around, asking questions."

Langham nodded. Jim knew that he desired privacy in which to work. He wouldn't say any-
thing. The others in the village, however, might give the game away.

"From England?"



Marsha nodded. "One of your grubby Fleet Street hacks—"

"Wapping," he said.

She shrugged, looked away. He interpreted her sudden mood as impatience at his correction, and was surprised when she looked directly at him and said, "Why, Dan? Why didn't you tell me?"

He met her gaze. "Tell you what?"

Her long, angled face mimed exasperation. "Why all the damned lies, Dan? Why lie to me? I thought ... I thought that we—" She pushed herself from the wall and ran into the villa.

He waited for several loud heartbeats. When she returned, her eyes would not meet his. She was carrying his small, tin, money box.

"Marsha ..."

She stared at him, anger in her emerald eyes. "We've been together 12 years, Dan. We shouldn't have secrets."

He could not bring himself to reply; nor could he bring himself to feel angry.

"I always wondered where the money came from, Dan. Your books don't sell that well."

"I told you, the small inheritance."

When she looked up at him, her eyes were filmed with tears. Her fingers fumbled with the lid of the box, and Langham realized with stomach-churning dread that she had picked the lock.

She pulled the deposit book from the box with shaking fingers, held it out toward him, and cried, "Five million pounds, Dan. Five million pounds!" The box dropped to the terra-cotta tiles.

He stood quickly, pulled her to him, and held her as she sobbed.

"Why?" she said. "Why the hell didn't you tell me?"

He could have told her the partial truth, that he did not want to expose her to the kind of lifestyle that five million would buy, for fear that her head would be turned, that he might lose her. He could always tell her that he desired a quiet life, that he had lived a long time and now wanted an existence shorn of materialism, sham, and artifice. Both were the truth, if not the whole truth.

"Where did you get it, Dan?"

"Like I said," he whispered. "The inheritance—my father."

"But you said he left you 50,000!"

"The money means nothing to me." Which was true. "We don't need money to be happy."

She was almost lost for words. "But ... don't you see? It would have made things easier." She shook her head. "You lied to me. You lied ... so how can I believe anything you tell me now?"

"Marsha ..." He kissed her forehead, took the deposit book from her fingers. As he did so, a faded photograph slipped from between its pages and planed to the floor.

Marsha knelt, and remained kneeling as she retrieved the picture and stared at it. She stood and held out the photograph.

Four gentlemen, be-suited and bow-tied, standing on the steps of some imposing country house.

"Who are they?"

Langham took the photograph and stared at the tall, dark-haired figure on the right, who bore more than a passing resemblance to his younger self.

He indicated the figure to Marsha. "My great-grandfather," he said, and smiled. "The money is entirely thanks to him."

He took her in his arms again and rocked her.

He hated himself for all the lies, but how could he possibly tell her the truth?

ON THE MORNING OF MAY 24, 1899, JONATHON LANGHAM BOARDED a coach in London bound for the village of Hambleden, Buckinghamshire. The summons to the Grange had arrived at his rooms the night before, in the form of a terse telegram from the Willoughby brothers: "Developments. Urgent that you make haste. Charles and Montague."

The message was enough for him to lay aside work on his latest novel, even though he was already a month late with its delivery to his publisher.

At two that afternoon he arrived at the Grange and hurried up the steps to the imposing front door. His tug at the bell-pull was answered

a minute later by Charles Willoughby. A matter of days after the events of one month ago, the elder brother, Dr. Charles Willoughby, had dispensed with his staff and retainers for the sake of secrecy and security.

"Langham! What took you? Hazlitt arrived at dawn! Well, come in, come in!"

Willoughby looked at once pale and excited, as if nervous exhaustion had robbed him of the ability to sleep.

He hurried after Willoughby as the doctor made his way down the corridor. "You said there's been developments?"

"All in good time, Langham."

Montague and Hazlitt were standing before the hearth, nursing balloon glasses and looking, Langham decided, less than sanguine. He hurried across the room and shook hands with his friends while Charles poured him a brandy.

"What's going on? Charles hasn't said a damned word."

"I think," Hazlitt said, "that you'd better hear it from the lips of the good doctor himself." Hazlitt, although no older than Langham—30 this year—had the physique of the brandy glass he was holding and great ginger pork-chop sideburns, which combined to give him the appearance of someone much older.

Montague nodded and took a swift mouthful of alcohol. "I wouldn't know where to begin," he said. He was tall, like his brother, and still retained some of the athletic demeanor gained on the fields of Eton, at which school Langham had first met the three men.

"Where's Sar-phan?" he asked on impulse.

Willoughby crossed the room and passed a glass of brandy to Langham. "Sar-phan, I regret to say, is dead."

Langham shook his head. "Dead?"

"Two days ago, quite unexpectedly. Over the course of six hours he unaccountably weakened and passed away." Charles Willoughby looked from Hazlitt to Langham. "There was no way we might have notified you in time."

Langham's pulse seemed to slow and thud in his ears. The events of the month before, their rescue of Sar-phan, all now seemed for nothing. "So that's it," he said, more to himself. "The end. Now we'll never find out ..."

He halted there. Hazlitt, a grin parenthesized between his sideburns, was watching him with the expression of someone privy to untold secrets.

"What is it?" Langham asked.

"Come," Willoughby said. "Come through to the conservatory."

Glasses in hand, the three men followed the doctor from the study and along darkened corridors. At last Charles flung open the double-doors, and Langham was for a moment blinded by the bright sunlight dazzling through the glass.

The first thing he beheld, on regaining his vision, was the view across the vast lawn to the woods beyond. He could still make out the gouged track made when they had dragged the vehicle across the grass one month ago.

He looked around the conservatory, and there, stationed where they had left it—all four men exhausted with the unaccustomed effort—was the strange silver craft, the "teardrop" as Hazlitt had christened it.

On a long table beside the craft stood the assortment of odd devices and gadgets they had removed from the teardrop, along with its single occupant, the naked, white-skinned manikin known as Sar-phan.

"Over the course of the month," Charles Willoughby said, "Montague and I learned to converse with Sar-phan. We taught him the rudiments of our language, and he in turn taught us one or two phrases of his. We were able to question him as to his precipitous arrival here."

Willoughby paused, glancing from Langham to Hazlitt. "Our original speculations were a little off the mark, gentlemen. Sar-phan was not a visitor from Mars, but from the stars way beyond."

Langham shook his head with wonderment. "The stars?"

"Over the last two weeks," Willoughby went on, "Sar-phan told us he was a lone explorer who hailed from a galaxy teeming with all manner of weird and wonderful life. The tales he recounted, gentle-

men! The impossible wonders of life beyond the Earth!" Willoughby paused, then crossed the room and stood before the long table, his gaze fixed upon the devices arrayed there.

"Two days before he passed away, he asked us to help him return. His starcar, as he called it, was wrecked beyond repair—but all hope was not lost. The car had crossed to Earth via a portal. It was the wonder of the portal, and not the car itself, that facilitated star travel. If this device could be repaired, then it would be possible to step from this world to the next."

Willoughby moved to a solid object at the far end of the table, shaped somewhat like half a barrel, but stepped like a plinth. He lifted it onto the floor beside the starcar, then touched a panel at its base. Immediately an array of thin, silver rods seemed to grow from the plinth and form themselves into an oval frame about the size of a standing man.

Willoughby announced, "We managed to put together this smaller portal from material salvaged at the crash site. Working to Sar-phan's instructions, Montague and I activated the portal and located his home-world. Sadly, Sar-phan passed away before we were successful."

Langham sat down and took a long swallow of brandy. "Is it—I mean, is it possible to...?"

Willoughby nodded. "I have activated it once since then, and I intend to do so again." He drew himself to his full height. "Gentlemen, it is my intention not only to activate the world portal, but to step through the device and visit the world Sar-phan called Thalia."

Montague looked at Langham. "I've tried to talk sense into him, alas to no avail."

Hazlitt was shaking the ruddy nubbin of his head. "Think of the dangers, man!"

Langham said: "Consider the fate of Sar-phan, and be wary. He set foot on a world strange to him, sickened, and died."

"It is a risk I am quite prepared to take, gentlemen. Think of it. I will be the first human to leave this sorry, benighted planet. If only you had heard the wonders of the universe of which Sar-phan spoke!"

"I'm not at all sure that the wonders would counterbalance the inherent dangers," his brother began.

"I will reconnoiter the alien world for minutes only," Willoughby promised, "and then return."

They left the conservatory and repaired to the dining room, and over a meal of cold salad and jugged hare they argued back and forth, Langham sometimes having to pinch himself to ascertain that he was not dreaming.

Hours later, as twilight descended upon the countryside around the Grange, and a full Moon appeared as if curious as to the goings on within the conservatory, Langham, Hazlitt, and Montague watched—not a little inebriated by the flow of fine wines and brandy—as Willoughby climbed into a cumbersome diving suit. The suit, he claimed, would offer some measure of protection against the immediate hazards he might find on Thalia. Langham was at once solicitous as to his friend's safety, and not a little curious as to the outcome of the singular expedition.

Charles Willoughby shook the hand of each man in turn, then took up a box-like device from the table. This he directed at the portal and depressed some studs upon its surface. Immediately the conservatory was filled with a hair-raising crackle reminiscent of the generation of electricity, and the silver rods of the portal scintillated with a brilliant blue light. As they watched, at once frightened and fascinated, a vista appeared in the oval framed by the silver rods.

Langham stepped forward, staring. The scene was recognizable, and yet consisted of elements quite unlike anything he had ever seen before. He made out a vale of grass, but of blood-red grass, and a distant mountain range made up of silver massifs. There were trees nearby, at least Langham gave them the name of trees: They were bent and tortured into shapes unknown to terrestrial trees, and shimmered with a rainbow iridescence.

Someone moved past Langham—Willoughby, striding awkwardly toward the portal in his diving suit.

"Think again, man!" Hazlitt warned.

Willoughby turned. "I have an opportunity to experience that which

no man has ever experienced before," he said.

He affixed a globular helmet to his suit, attached the hoses to the primitive airtanks strapped to his back, and gave one last wave.

Holding his breath, Langham watched his friend climb onto the plinth, duck through the silver oval, and step into the other world.

Hazlitt and Montague gasped and approached the portal. Langham could only stare as Dr. Charles Willoughby took his first step upon alien soil.

The scene, with the suited figure of Willoughby within it, seemed now even more eerie and bizarre. It was as if its true strangeness might only be judged when compared to something familiar to their eyes.

Langham wanted nothing more than to rush forward and pull his friend back from that alien realm. Something, some fear within him at the strangeness of the world beyond the portal, rooted him to the spot. What happened seconds later made him sorely regret his inaction.

The explorer turned and stared about him. "Oh, the wonder," Willoughby gasped in awe. "The wonder ..."

Langham stepped forward. He cupped his hands as if he were hailing Willoughby over some vast distance—which, in a way, he supposed he was. "Willoughby! Don't you think that's enough?"

Hazlitt was beside him. "Langham's right, old man. Time to call it a day, I say."

At that very second, something happened to the portal. A loud static crackle filled the air.

"Charles!" Montague called out, rushing up to the portal.

A second later the silver rods of the portal glowed electric blue again, and the air was briefly charged. The scene in the frame, the alien vista with Dr. Charles Willoughby in it, flickered for a few seconds, then vanished.

Langham blinked, staring through the design of rods to the far side of the conservatory.

"What happened?" Montague said.

"The infernal device malfunctioned!" Hazlitt cried. "Willoughby is stranded out there!"

The three men remained in the conservatory all night, Montague attempting to reactivate the world portal, without success.

The day following, Langham reluctantly returned to London. Hazlitt, a man of leisure due to a sizable inheritance, remained at the Grange with Montague Willoughby and communicated the lack of news to Langham with cables every other day.

Over the course of the next few months, Langham worked on the novels and essays which he published under the *nom de plume* of E.L. Vaughan-Ellis. Every weekend he made the pilgrimage to Willoughby Grange where, along with Montague and Hazlitt, he would mount a vigil in the conservatory. As the months stretched to years with still no sign of the doctor's return, Langham would often find himself staring into the darkened heavens, reflecting upon the singular plight of his good friend Dr. Charles Willoughby, the first human ever to venture among the stars.

■ ■ ■ 'M GOING TO PAINT. I WON'T BE BACK UNTIL LATE."

■ She stood before him, an easel under one arm, a canvas bag in the other.

■ "Marsha, I want to explain."

■ "You've had 12 years to explain, Dan." She stared at him with mistrust. "I don't want to hear any more lies."

■ He watched her go, sick to his stomach. Later he went into the villa, thought about fixing himself lunch. He realized that he had no appetite. He poured a stiff measure of gin and tonic with ice.

He returned to the patio and sat down. He wondered if this was really the beginning of the end, if the seed of uncertainty he had inadvertently sown in Marsha's mind would grow between them, forcing her to leave. Worse than this was the thought that on some sequestered, subconscious level he had manufactured the rift, that he knew their time together was limited and had therefore acted to bring it to an end.

The hell of being conscious, he thought, was that we are driven by subconscious impulses over which we have little control and no real

understanding.

He sipped his drink and stared down the hillside. On the sandy path down below, he made out the overweight figure of a middle-aged man struggling up through the olive groves. It was some time, perhaps three minutes, before he guessed that the man must be the journalist Marsha had mentioned. He was laboring beneath the weight of a large shoulder bag, and Langham idly wondered what it might contain.

His natural impulse was to go inside, lock the villa, and feign absence. Inertia and the knowledge that the journalist would remain on the island until he had his story kept Langham where he was.

He would play the affable host, answer whatever inane questions the hack asked him, and soon it would be over.

The journalist emerged between the olive trees and paused to mop sweat from his brow. He looked up, saw Langham, and smiled. "Daniel Langham, I presume?"

"How can I help you?"

The man moved from sight beneath the villa wall, emerging a minute later at the far end of the patio. He wore a pair of beige polyester trousers and a white shirt that hammocked a considerable beer gut. His face was round and red and overweight, a blond fringe and gold-rimmed glasses giving him the appearance of an eager grade-school boy.

With relief, he dropped his weighty shoulder bag to the ground. "Phil Turner. *The Mail*. Features. I hope you don't mind ... I would have called to arrange an interview, but your number isn't listed. I'm a big fan of your novels, Mr. Langham."

He remained standing, sweating, at the end of the patio, something pathetic in his expectation.

Langham gestured to the rattan chair across the table. "I can give you an hour before I start the afternoon shift," he said. "You look like you could do with a drink."

Turner laughed, waddled across the patio, and slumped into the chair. "Could murder a cold beer, if you're twisting my arm."

Langham moved to the kitchen and took a condensation-slick bottle of Stella from the refrigerator, and a cooled glass. When he returned to the patio, Turner was extricating a notebook and ballpoint pen from his bag. He accepted the beer with an expression of relief.

Langham resumed his seat and sipped his gin and tonic, watching Turner as he arranged the notebook on his broad lap.

"You've come a long way just to interview me," Langham said.

Turner gulped at his beer. "I was due a holiday. Thought I'd come to Ithios, combine work and play, why not? I've been an admirer of your work for a long time. I couldn't resist the opportunity ... Can you tell me why you choose to live here, Mr. Langham?"

As interviews went, this one was relatively painless. Turner seemed genuine in his praise of the novels—at least he had read them and could discuss not only the plots, but the themes, with some degree of insight. He kept the personal questions to a minimum and superficial: Was he married? Children? His book showed a mature understanding of human complexity—were any of his books autobiographical?

Langham fielded the questions, largely with platitudes, and the hour passed rapidly and not unpleasantly. He fetched Turner another beer and refreshed his own drink.

"Can I ask you who your literary influences are, Mr. Langham?"

He cited Greene as an early influence, going on to say that in his opinion the writer combined an economical style with a penetrating human insight.

Turner blinked behind his glasses and dutifully took it down in painstaking shorthand. He looked up, and Langham noticed that he had broken out in a fresh sweat.

"Would say that you were at all influenced by the novels of E.L. Vaughan-Ellis?" he asked, and remained staring at Langham across the table.

Despite the sudden increase of his pulse, Langham tried to maintain an outward appearance of calm. He sipped his drink, composing his thoughts. "The Victorian novelist and essayist?" he asked. "I do admire his work, yes. I'm in sympathy with certain of his views. Of course, his novels have obviously dated."

He stopped there. Turner was leaning over his chair and delving in the shoulder bag on the floor. He pulled out three musty, mildewed volumes bound in cracked morocco, and lay them, side by side, on the table.

"I only ask because I've noted certain ... similarities, let's say, between your novels and those of Vaughan-Ellis."

Langham shifted. He hoped his discomfort was not apparent to the journalist. "Is that so?"

Turner leafed through the volume entitled *The Sacrifice of Fools*. He came to a page marked with a torn strip of newspaper. "For instance, this passage. Let me read it out loud." He raised the book and glanced across at Langham.

"There comes a time in life when the wise man will assess all that has gone before and adjust his circumstances accordingly; he will, if his wisdom is equal to the task, realize that his individuality is but a condition of prior experience and attempt to discern those influences so as to be in control of his present and his future."

Turner paused there and stared at Langham. "Interesting, if a little overwritten." He reached into his bag and withdrew a thick, shiny hardback. Langham saw with dismay that it was his own novel, *The Treachery of Time*. It, too, was marked with a strip of newspaper.

Turner opened the book and began reading: "Mallory realized that he had to take stock of all that had gone before and adjust his circumstances accordingly. He understood that his individuality was a condition of prior experience. It was his duty to discern those influences and so control his future." Turner stopped reading and stared at Langham. "Don't you agree that those two passages are remarkably similar, Mr. Langham?"

Langham found his voice. "Are you accusing me of plagiarism?"

"I'm not accusing you of anything. But I am interested in your explanation."

Langham nodded. He told himself that he was in no danger from this scurrilous hack. "I read Vaughan-Ellis many years ago. I was in the habit then of keeping an extensive commonplace book—I must have noted down certain passages, and then inadvertently, years later, read them and used them as my own."

Turner nodded. "There are rather a lot of similarities between your novels and those of Vaughan-Ellis," he commented. He tapped the three old novels before him; slips of paper bristled from the stack.

Langham gestured. "I read everything he wrote and made extensive notes." He paused. "As a matter of interest, how did you stumble over the..." He indicated the old books.

Turner smiled. "I read his work at university," he said. "Last year I was sent your books to review, and I couldn't help notice the similarities. I did some research—" He stopped and lifted his beer, watching Langham all the while. "Vaughan-Ellis was the pseudonym of one Robert Langham. I wondered if there was any family connection?"

Langham sighed. "Robert Langham was my great-grandfather," he said.

"He was? That's a very interesting fact, Mr. Langham. I wonder if you could tell me what happened to your great-grandfather?"

He wished, now, that he had sent the bastard packing. "What do you mean, *happened*?" Langham said.

"It is true that Robert Langham disappeared sometime around 1905?"

Langham gestured. "I was always given to understand that he left the country for South America," he said. "Nothing was ever heard of him again."

Turner looked up from his notes. "Have you discovered exactly where your great-grandfather died?"

Langham met his gaze. "No," he said, "I haven't. Have you?"

Turner laughed. "I haven't," he said. "But I'm working on it." He closed his notebook and returned the books to his bag. "Thanks for your time, Mr. Langham." He made to leave.

"What now?" Langham asked. "Will you write a muck-raking little piece accusing me of plagiarism?"

Turner stood and looked down at Langham for what seemed like an age. "I don't know what I'm going to do with this story," he said. He nodded. "But I'll be in touch."

Aware of his thudding heart, Langham watched the journalist step from the patio and make his slow way down the winding path toward the village.

He sipped his drink and told himself that he had no reason, no reason at all, to worry.

Turner would never discover the truth.

■ ■ ■ ■ ■ ROBERT LANGHAM VISITED MONTAGUE AT WILLOUGHBY Grange most weekends, often joined by Hazlitt. They would sit on armchairs and Chesterfields ranged around the redundant frame of the portal device, wondering aloud at the fantastical exploits of the errant Dr. Willoughby.

■ ■ ■ ■ ■ In the early hours of January 24, 1905, Langham was awoken from a deep sleep by a familiar sound working at the edge of his consciousness. It was some minutes before he came fully to his senses. He had fallen asleep on the Chesterfield in the conservatory, having spent the evening with his friends, sampling the fine wines laid down in the Willoughby's generously stocked cellar.

At first he thought it was his drunken senses, misleading him. Many had been the night when he had dreamed about his missing friend, and numerous had been the occasions on which he thought he heard Willoughby's voice, calling him.

This time, however, there could be no mistaking the fact. He sat up, cocked his head, and listened.

He broke into a sweat as the words, muffled as if coming from a great distance, reached his ears: "Ho, there! Hazlitt, Langham, Montague—are you there, my friends? It's me, Willoughby. For pity's sake reply if you can hear me!"

Langham stammered: "Willoughby? Good God—where on Earth ...?" He caught himself with the inappropriate nature of the remark. "Where are you, Willoughby?" he called out.

"To be precise I'm on the world of Pharaxian, in the second quadrant of the Pharax-inhabited galaxy."

Langham looked around the moonlit chamber. The voice seemed to be issuing from one of the devices upon the table.

"One minute while I wake the others!" he cried, and seconds later he was dressed and running through the darkened corridors.

Within minutes Hazlitt and Montague were stumbling down the stairs after him, a thousand questions on their lips. "You say he's returned, man?" Hazlitt wanted to know. "Then where the deuce is he?"

"Langham said Willoughby *spoke* to him," Montague corrected his friend. "Isn't that right?"

Langham, already before the conservatory door, turned to his night-gowned friends and cried: "I hardly know what is right! For all I know I was dreaming ..."

They hurried into the chamber and Hazlitt busied himself with the gas lamps while Langham and Montague crossed to the long table.

"Willoughby, are you still there? Can you hear me?"

"Loud and clear, Langham. My word, you don't know how good it is to hear a friendly human voice!" His own voice emanated from a blue ovoid somewhat like an emu's egg, fashioned from some jade-like substance.

"Charles!" Montague cried. "Why have you left it so long before contacting us? We were at our wit's end!"

"Is that you, Montague? Wonderful to hear you! Hazlitt, are you there too?"

Hazlitt shook his head in wonderment. "Present and correct, Willoughby. It's been five years, man! What happened to you?"

The sound of Willoughby's laughter issued from the blue egg. Langham noticed that, when Willoughby spoke, the egg pulsed with a subtle, effulgent light. "Where to begin! For five years I've lived the life of a stellar vagrant, wandering from star to star among all manner of weird and wonderful beings. The things I've seen, my friends! The adventures, the danger ... For many years I've been searching the galaxy for the technology with which I might communicate with you. I even one day hope to re-open the portal, so that you might join me! Before that, however, I have a gift for you all."

"A gift?" Langham echoed.

Willoughby laughed. "One of the devices we salvaged from Sarphan's starcar—you have them all still, I take it?"

"Safe and sound," Langham assured.

"Capital! Find the device shaped like an empty box, made of some silver-gray metal."

Langham located the device on the table.

"What is it?" Hazlitt asked.

"The locals have some name for it I can hardly pronounce," Willoughby said. "Suffice to say, it transports small objects over vast stellar distances. Langham, on the side of the box you will notice a slide-device. Push this as far back as it will go, and then wait."

Glancing warily at his friends, Langham obeyed. The three men stood back as a low-pitched humming note sounded from the gadget.

As they watched, something appeared within the box. One second the box was empty, and the next, in a flash of light, there appeared what looked like some kind of small handgun. Beside it stood a vial of colorless liquid.

"Did it translate through?" Willoughby enquired.

Hazlitt stepped forward and took up the handgun, gingerly. "That it did!" he said. "But what is it?"

"The vial contains a serum—more than enough for the three of you. Insert the vial into the device and depress the green stud while applying the nozzle to your carotid artery."

"Explain yourself, man!" Hazlitt cried. "What are you asking us to do?"

"Hazlitt, calm down," Willoughby counseled. "The vial contains a strange compound, a serum. Within the colorless liquid are a million minuscule ... you might find this hard to believe, my friends, but a million *machines* reside within the suspension. When introduced into the bloodstream, they effect to repair the very structure of one's body on a cellular level."

"What on Earth are you asking us to do?" Montague cried.

"Nothing that I have not already done myself, my friends. I was awarded the treatment by a surgeon on a remote Rim world. He was appalled when he discovered that I was not *amended*, as they call it."

"Yes, but what does this serum *do*?" Langham asked.

There was a pause. At last Willoughby said: "It repairs the body, and keeps on repairing it, so that one's body never fails, so that one does not succumb to illness or disease ..."

"Good God, man!" Hazlitt cried. "But one might very well live forever!"

The three friends stared at each other in wonder.

Willoughby said: "Barring accidents, my friends, that is exactly what the serum will do for you. Do you wish to live forever?"

Later, hours later, when Willoughby had talked himself hoarse answering their myriad questions and then closed the connection, promising that he would be in touch again in time, they sat in the conservatory in the quickening light of dawn and stared at the handgun and the vial of serum.

"Do you wish to live forever ...?" Langham whispered.

Hazlitt shook his head. "I do not ... I *cannot* believe this," he said.

Montague spoke up: "We have witnessed over the years many things that defy belief, and yet which we know to be the truth. Why should this be any different?"

Langham looked from Hazlitt to Montague. "Well, do we wish to live forever?"

With a shaking hand he reached out and took up the pistol-like device and the vial of serum. He inserted the vial into the breach of the gun and held it aloft.

"We stand on the threshold of eternity, my friends. Do you dare turn back now?"

He stayed the tremble of his hand and, as the others looked on, moved the pistol toward his neck. He located his carotid artery with his free hand, and placed the cold nozzle of the handgun against his flesh.

Then, closing his eyes and gasping, he depressed the green stud. A wave of iciness passed through his being, freezing his very soul, to be replaced by sudden nausea, soon gone. Within seconds he felt

alert. He opened his eyes and smiled at the aghast expressions on the faces of Hazlitt and Montague. He thought of the million microscopic machines coursing through his bloodstream. He convinced himself that he could feel their beneficial effect already.

He passed the handgun to Montague, and after some hesitation Montague raised the gun and repeated the procedure. As Langham watched, Montague's features took on a quick, agonized expression, and then he was smiling and passing the device to Hazlitt.

Their friend paused, unsure, eyeing the gun in his hand. For a second Langham thought that Hazlitt might refuse—and then, in a rush, he raised the gun to his thick neck and fired.

Langham raised his glass. "To the Kings of Eternity," he said.

"To the Kings of Eternity!"

Over the course of the years that followed, the friends met every weekend to discuss the path upon which they had embarked. Once they had ascertained beyond doubt that they were no longer aging, they debated the practical aspects of their longevity, and from time to time, in bouts of drunken reverie, considered the philosophical consequences.

From now on, theirs would be lives like no others: The future spread before them in a limitless panorama of opportunity, their fellow man condemned to firefly existences by comparison. Langham was the first to raise this issue; like the thinker he was, he foresaw the loneliness ahead, as the lives of loved ones sputtered and died like spent candles in the breeze of relentless time.

They waited for more communiqués from Willoughby, to no avail; likewise they waited for him to open the portal between the worlds.

Langham was the first to tire of his life in England. With the start of the Great War he said goodbye to his friends and sailed for Asia. Hazlitt and Montague remained as the guardians of the alien wares, and the serum gun.

Langham began a lonely, vagrant life, interrupted only when he disobeyed his head and obeyed the impulse of his heart, and allowed himself to fall in love.

FROM HIS SEAT ON THE PATIO DANIEL LANGHAM watched the Sun set and the stars appear in the indigo heavens. Down below, the lights of the village delineated the broad curve of the bay. Marsha had not yet returned from her painting expedition, and he missed her. He wanted to apologize for all the lies down the years, explain to her who and what he was.

He considered the journalist, Turner, and what he had discovered. He told himself that he had no need for concern. Turner might have discovered his self-plagiarism, but there was no way he might deduce from it the unbelievable truth. Still, Langham chastized himself for allowing Turner this much of a lead.

In the 1950s, after many years of rootless travel around the world, and two failed relationships, he had settled in France and began writing again: pot-boiling thrillers under a pseudonym that sold reasonably well and kept him occupied. After 10 years he tired of producing undemanding, low-quality work, quit writing and France, and traveled again. In the mid-'60s he met Cynthia, and for 10 years knew what it was to be fulfilled.

He had been careful to simulate the aging process, adding hints of gray to his temples, feigning the aches and pains that he guessed must beset the body of a 45-year-old mortal. Yet to live a lie was hard, especially when deceiving the one he loved. Cynthia had grown apart from him, intuited something at the core of his self which he was unable to share with her, and in time they had separated.

In the '70s, hurting, Langham started writing again, serious, heart-felt novels based in part on his work of 70 years ago, but drawing on his vast experience since then. He had used the name Dan Langham—Dan because he like the no-nonsense, forthright Christian name, and Langham because that was, after all, his name. He wondered now if that had been a mistake, to give Turner this link to his former self?

His thoughts were interrupted by the shrill summons of the phone.

He thought immediately that it must be Marsha, calling him to join her at some village taverna.

He hurried into the villa and picked up the receiver. "Hello?"

"Langham?"

"Yes, who is this?"

"There've been developments, Langham."

"Good God!" He was aware that he had broken out in a drenching sweat. He sat down, or rather collapsed, into the armchair.

"Hazlitt, is that you?"

"It's been a long time, Langham. What, 10 years?"

"Where are you?"

"Look down in the bay. See the jetty, the cruiser?"

Langham carried the phone to the French window and stared down the hillside. Moored alongside the jetty was a hundred-foot cruiser, sleek and white in the night.

"You said there'd been—"

"—developments. Charles has contacted us again."

"Good God..."

Hazlitt laughed. "So get yourself down here, man."

Langham nodded. "Yes, yes, of course. I'm on my way."

He replaced the receiver and remained staring into the night, his heart hammering with the shock.

He gathered his wits, stepped from the villa, and closed the French window behind him. He was filled with a strange buoyancy, a not-altogether-pleasant sensation of abstraction. He left the patio and negotiated the sandy, precipitous path down the hillside through the olive groves. He had last seen Hazlitt and Montague just over 10 years ago, when they had visited him on the island, and the reunion passed as if they had never parted.

Langham looked up at the bright array of burning stars spread across the zenith of the night sky. He often found himself contemplating the constellations, the wondrous fact of the life that teemed out there.

Sometimes, in moments of reverie, he would compare the life he had made for himself with Charles Willoughby's existence among the stars. What had he achieved over the past 95 years? He felt no satisfaction with the wealth he had amassed, the Swiss bank accounts and shares that accrued profit with little effort on his part. His books gave him far more satisfaction: Certain of his output over the past 20 years filled him with pride. But, when he considered his life, it was his infrequent relationships which, when all was said and done, mattered more than anything else: his time with Cynthia all those years ago, and Caroline and Eliane before her, and now the life he shared with Marsha. He wondered if Willoughby had ever found someone with whom to share his life.

He paused at a sound behind him, a rattle of stone on the path. He turned and stared into the darkness, but could see nothing. He continued down the hillside, occasionally almost losing his footing in his haste to reach the boat.

He had almost gained the road when he heard the sound again. There was certainly someone coming down the hillside in his wake. Following him? He smiled to himself. He was being paranoid, over-cautious that his reunion with the Kings of Eternity should not be observed.

He left the olive groves and hurried along the road skirting the bay that led, eventually, to the jetty.

Five minutes later he approached the stark, white shape of the cruiser, something ostentatious in its pristine, thrusting superstructure compared to the rude fishing boats bobbing alongside.

"Hello, down there!"

Langham looked up. The ruddy face, all pork-chop sideburns and smiles, beamed down at him. He hurried up the gangplank and halted before Hazlitt. They embraced, pulled away to regard each other. Hazlitt had lost weight over the years, his former brandy glass physique pared down to that of an athlete. True to his old self, however, he affected an Edwardian demeanor, with tweed plus-fours, a waistcoat, and fob-watch.

"Where's Montague?" Langham asked.

"Below decks, readying the portal."

"The portal?"

In a daze he followed Hazlitt down a short flight of steps and along a corridor. They came to a large, comfortably appointed cabin, more like the lounge of some expensive penthouse suite.

Montague Willoughby was in the middle of the room, bent over the apparatus of the world portal.

He turned as they entered and hurried across to shake Langham's hand. Montague looked well, a bronzed '90s playboy playing the part of a sea captain with braided blazer and white slacks.

"So ..." Langham began, staring from Hazlitt to Montague, "what the hell's happening?"

Hazlitt exchanged a look with Montague. "Should I tell him, or will you?"

Montague said, "Willoughby contacted us via the blue egg just over two weeks ago. I was at the Grange. He said that he'd managed to get together the means by which to pay for the opening of the portal."

Hazlitt crossed the cabin. Langham made out, on a table beside a porthole, the lustrous glow of the blue egg. As he watched, his friend reached out and laid a hand on the device.

Seconds later Willoughby's voice filled the room.

"You're all together?"

"We're here, Willoughby," Hazlitt said.

"Then prepare for the opening of the portal!" Willoughby declared.

As Langham watched, the oval rods glowed blue and a crackle like electricity filled the cabin.

Hazlitt turned to Langham. "We decided, when Willoughby contacted us a fortnight ago, that the time had come for us to leave Earth."

Langham shook his head, dazed. "You're joining Willoughby?"

Montague explained. "Life on Earth palls, Langham. We have done so much, seen so much, this century. We need new opportunities, new horizons." He stopped there, glanced at Hazlitt.

"Are you coming with us?" Hazlitt asked.

"I ... I—this is so sudden. I have my life here."

At that moment a strange light filled the room. Langham swung toward the portal. Through the oval he beheld a scene of Edenic peace: a vast, cultivated garden of blooms so overblown and voluptuous they could only be alien.

In the foreground stood a figure Langham recognized as Willoughby, but a Willoughby greatly transformed from the man he recalled. He seemed taller than Langham remembered, his limbs attenuated, his face stretched to almost equine proportions.

He approached the interface and stared through. "My friends!" he cried. "You cannot imagine how wonderful it is to see you again! Have you decided?"

Hazlitt stepped forward, his ruddy face washed with the verdant effulgence spilling from the alien garden. "Montague and myself have made up our minds, Willoughby. We're joining you."

"Excellent!" Willoughby looked at Langham. "And you, my friend?"

Langham opened his mouth to speak, but found words impossible. How could he make such a decision, weigh what he had here with what wonders might await him abroad in the galaxy?

Willoughby's gaze moved from him, seemed to be staring beyond the three men, across the cabin to the entrance. At a sound from behind them, a short gasp, Langham turned.

The overweight figure of the journalist, Turner, stood on the threshold, staring with a mixture of fright and wonder at the glowing portal and the phantasmagorical scene it framed.

"Who the hell—?" Hazlitt began.

Montague had drawn something from his blazer and was approaching the journalist.

Langham called: "Don't shoot him, for pity's sake!"

Montague halted in the process of raising and aiming the pistol. "Then what the hell do you suggest we do with him?"

Turner stepped forward, his gaze drawn by the portal. He glanced at Langham, and his voice trembled. "What is this? What in Christ's name—?"

Montague sprang at the journalist, lifted his pistol, and brought it down again and again on the man's skull. Langham could only watch, at once sickened by the degree of his friend's violence and the effect

it produced. Turner cried out and slumped to the floor, his head a bloody mess.

Montague knelt before him, felt for a pulse. He stood. "He'll live."

"Who is he?" Hazlitt said. "How did he—?"

"A journalist. He must have followed me."

"Gentlemen ..." It was Willoughby. The three men turned to the portal. "There is no time to lose. I can maintain the link for only so long."

Langham stared at the unconscious journalist. "What about...?"

Willoughby stepped forward and peered into the room. "Two of you come through now, the other remove the portal to a place of safety. I will re-establish the link and you can join us."

"But what about when he comes 'round?" Langham said.

"He'll have a damned sore head and a crazed tale no one will believe," Willoughby said.

Langham saw his opportunity. "I'll stay behind," he said. "I'll take the portal to the villa."

Montague made to step through the oval aperture of silver rods. Hazlitt turned to Langham. "We'll see you soon, my friend."

"Hazlitt," he said, "what about the serum gun, the other devices?"

"They're back at Willoughby Grange."

"Hurry yourselves!" Willoughby called.

Montague stepped through the portal and stared about him in wonder as he reached the alien world. Hazlitt took Langham's hand in a brief shake. "See you soon, my friend."

Langham watched Hazlitt step through the oval. He turned, raised his hand in a wave—and the alien garden vanished, the silver rods again flashing blue to the accompanying electric crackle.

Langham stared at the portal for long seconds, and then moved himself to action. He folded down the rods of the portal and lifted the plinth. It was heavy, but not unmanageable. He crossed the cabin and slipped the blue egg into the pocket of his jacket. He paused before the unconscious form of Turner.

Langham would deny everything, when the authorities came to investigate the journalist's bizarre claims of strange devices and alien landscapes. He would even deny setting foot aboard the boat. No one had seen him arrive, and he would ensure that he left unnoticed.

He stepped from the cabin, the portal under his arm, and slipped quietly from the boat. He took the coast road and made his way up the steep, winding path toward his villa.

Marsha had returned, her paint bag and half-finished canvas deposited on the table in the lounge. He concealed the portal in the spare room, locking the door behind him, then moved to the bedroom and paused on the threshold. Marsha lay curled on the bed, the sound of her even breathing filling Langham with a tumultuous emotion he found hard to contain. He wanted to wake her and end all the lies, explain to her the truth of his life.

He moved back to the lounge, poured himself a large gin and tonic, and stepped onto the patio. He sat down and stared out down the hillside, toward the bay and the massed stars, and considered the future.

He heard the sound of Marsha as she stirred in bed, awoke, and called his name. Seconds later he heard footsteps as she padded across the lounge. She appeared in the doorway, leaned against the frame, languorous in half-sleep. "Dan? Dan, where've you been all this time?"

He regarded her as she watched him. He knew, then, what he must do.

He would erect the portal and wait for his friends to contact him, and then he would explain that there was no way he could join them among the stars—just yet. He had found something here too precious to sacrifice, a gift no treasure in the galaxy could replace.

He would tell Marsha what had happened all those years ago, with Charles Willoughby and the portal. Then he would tell her about the serum gun, and offer her the option of immortality.

If she accepted, then the galaxy beyond Earth would await them ...

"Dan?" Marsha asked. "What is it?"

Langham felt some strange emotion constrict his throat. It was time to end the lies ...

"Here," he said, reaching out for her, "and I'll tell you."

Smiling uncertainly, Marsha came to him. □

Shooters and Gamers come together inside the fusion experience *System Shock 2*.



ABOVE: *System Shock 2* delivers a unique gaming experience. BELOW: With Feng Shui, you can live your favorite Hong Kong action movies.

THE HARDEST GAME I HAVE PLAYED THIS YEAR IS the brand new fusion Role-Playing Game/First Person Shooter, *System Shock 2*, from Irrational Games, Looking Glass Studios, and Electronic Arts (for PCs, \$49.95). Built on the *Thief* game engine, *SS2* starts with a familiar premise. In the far future, the character wakes from an autodoc to find himself perhaps the only survivor on a space ship, the Von Braun, that has undergone disaster. This is the point where RPG fans will start looking for tools to use to solve the upcoming puzzles and where FPS fans will start looking for weapons to blast the aliens bad guys with. The trick to *SS2* is that the player has to do both these things if the character is to have any chance to survive.

The game actually begins even before the character awakes on the Von Braun. After the opening movie, the character reports for recruitment into the UNN armed forces. The player can choose to have the character join the Navy, the Marines, or the OSA (the Psicorps). The character undergoes three years of training and each year the player picks a mission for the character that either increases its skills or its physical statistics. When done with basic training, the

character is shipped off to the Von Braun and the game begins in earnest.

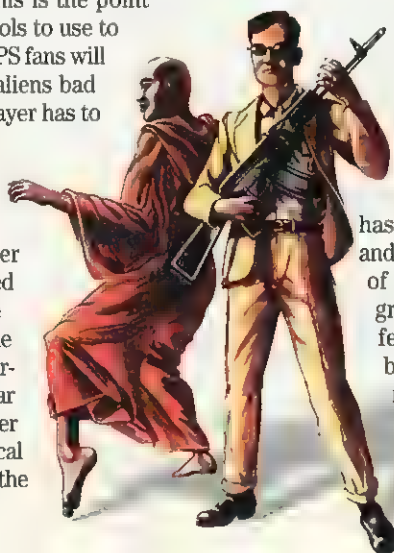
Sounds simple enough doesn't it? The problem is that (and here is the RPG part) the character is defined by combat skills, tech skills, psi skills, and physical statistics. If the character doesn't have a high enough strength, for instance, it can't wear armor, but if it doesn't have a high enough weapon skill, it can't shoot anything but a pistol, but if it doesn't have maintenance skill, it can't keep its guns clean. The more you shoot a gun, the worse it works until eventually it doesn't work at all. And it is not like there are so many guns laying around that the character can just pick up a new one as needed.

In order to survive in *SS2*, characters must be built with a broad base of skills. Specializing in only guns will get the character killed because its guns will break and it won't be able to fix them. Specializing in maintenance skills will get the character killed because it will never be able to use a better weapon than the pistol. Specializing in psi skills will get the character a long way, but eventually it will die because psi skills are mostly defensive and some of the monsters require a strong offense. Gun skill is the most useful in the game, followed quickly by hack, which lets you open locked crates, turn off the alarm system for a few minutes, or get better, cheaper goodies out of the replicators. Problem is, usually what the player wants the character to hack requires a skill one better than the skill the character actually has.

Everything in *SS2* is handed out in dribs and drabs. Bullets are nearly as scarce as guns. The level two mutants use shotguns, but every time the character kills one and takes his gun, it has just jammed and repair skill 3 is required to fix it. The points needed to increase the character's skills and stats come in painfully small awards, and only as rewards for reaching certain points in the "plot." The character is constantly being killed because it is out of ammo and the monsters have an endless supply. The

respawn is instantaneous, but it costs nanites (the microscopic machines that are used to buy stuff out of the replicators and which are also expended to hack the ship's systems) and the character doesn't get its lost bullets back.

System Shock 2 is a very interesting, very frustrating game. It has the immersiveness of *Half-Life* and the crisp graphics and atmosphere of *Thief*. It turns out as the plot progresses that the character has suffered memory loss because it has been implanted with special equipment. This equipment picks up the psychic residue of some of the dead personnel scattered about the ship, letting the player see "ghosts"



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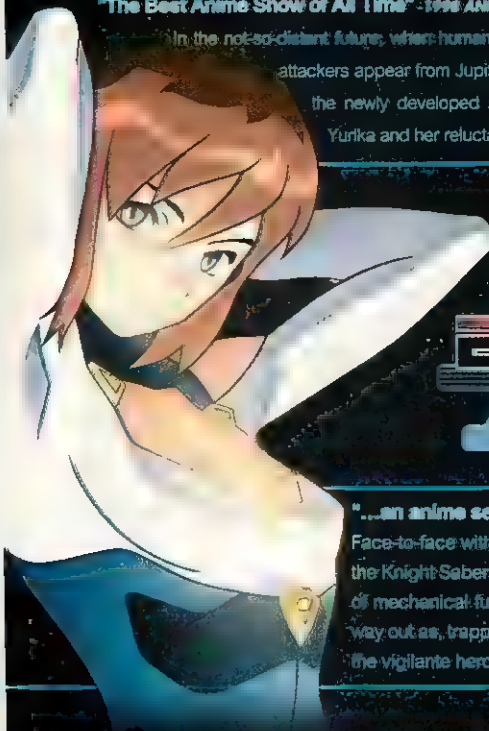
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who demonstrate ship's functions or give warnings at key times. This is pretty cool, and is just one of many neat effects built into the game. For my money, *Half-Life* is still the game of the year, but I am a FPS partisan. I don't like scrounging for ammo and picking locks when I could be killing things. That said, *SS2* is an awfully good game.

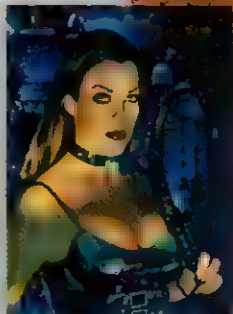
That closes the electronic portion of the column. From here on I have three paper and dice basic rule sets to talk about. The first is the All New, All the Same *Feng Shui: Action Movie Role-Playing* (Atlas Games, 1999, \$30.00). Textwise, this is exactly the same book that was released by Daedalus Entertainment, Inc. back in 1996. Daedalus went out of business in 1998. The bankruptcy settlement gave the rights to the text of the game back to its author, Robin Laws, who began seeking another publisher for the system. He found one in Atlas, the unofficial home for wayward games. Atlas got the rights to some of the old art, bought some new pieces, refreshed the layout, and finally put the game back on the market.

That is the "All New" part. The "All the Same" part is the text itself. Robin felt strongly that no one who already had the book should have to buy the new edition. The only changes are the addition of six archetypes that were supposed to have been in the original, Daedalus edition and were eventually published in the Daedalus supplement, *Back for Seconds*. There is also a short paragraph that has been added to explain why the game's background is still set in 1996. Other than those small changes, the book is exactly the same. This is a good thing because *FS* is one of the best role-playing games ever; it didn't need any changes, and it was courageous of Robin not to gouge his fans by doing a "Second Edition" of the rules.

The source material for *Feng Shui* is the Hong Kong action movies of John Woo, Jackie Chan, Tsui Hark, and their ilk. Characters play various masters of martial arts, sorcery, weapons, and advanced technology who are fighting the Secret War with the Fate of Mankind itself hanging in the balance. The game world takes the ancient Chinese art of geomancy to its ultimate conclusion: Whoever controls the world's greatest centers of Chi also controls the World. The modern day is already in the hidden hands of the Accended. Through the limbo of the Neather-world, three other time periods of Earth history can be traveled to in the game, each corresponding to a popular genre of Hong Kong films. They are 69 A.D. for wuxia and sorcery, 1859 A.D. for peasant warriors and butt-kicking Shaolin priests, and 2056 A.D. for wild Science Fiction characters and artifacts. These pasts and this future are also dominated by dangerous groups, each of whom wants to expand their influence into the others' time periods. It is up to the characters to stop them.



ABOVE: Immortals: Millennium improves on the original. BELOW: The Dominion Tank Police Role-Playing Game and Resource Book may very well turn out to be the pleasantest gaming surprise of the year.



Feng Shui recreates the style of the frenetic paced, high body count, high property damage world of Hong Kong movies by putting the emphasis on action, combat, and melodrama. For instance, many role-playing games have elaborate systems for how a character gets better at various skills and abilities. Calculations have to be made in the real world, and time in training and practice must be spent in the game world. In *FS*, experience points are accumulated and when the player has enough to buy some improvement for the character, they spend the points and make the changes. As in the movies, characters can get better on the fly, sometimes even discovering powers they didn't realize they had. High body count encounters alternating with drawn-out battle royals are encouraged by a two-tiered system of characters: un-named characters (mooks) and named ones.

The game system, particularly the combat part, is fast and clean and true to the movies, not to real life. Characters are encouraged to vault, spin, ricochet shots, use improvised weapons, and do whatever else they can think of to make the action more cinematic. Characters who simply crouch behind cover and shoot are penalized. Characters are built from (the now) twenty-six different archetypes, and if the game begins in modern day Hong Kong, the players can have a character and be playing the game competently in just a few minutes. If the player gets stuck, they can just think, "What would Jackie Chan do in this circumstance?" and then have their character do it. The brilliant conceit of the game is that a character's

defensive stat is usually equal to its best offensive skill. Thus martial artists defend against being shot with their martial arts score, while gunmen defend against being kung fued with their guns skill. This system has nothing to do with reality, but perfectly mimics the movies while letting martial artists, gunmen, sorcerers, and supernatural creatures all square off against each other on equal terms.

It is a rare thing in this world when a good game, knocked out of print by a failed company, is given a second chance. There is no game that deserves a second chance more than *Feng Shui* does. If you have ever watched an action movie, whether Hong Kong or American, and thought, "Wow, that looks like fun," then you owe it to yourself to go pick up a copy of *Feng Shui*.

Keeping with the Asian theme, the next game off the pile is the new *The Dominion Tank Police Role-Playing Game and Resource Book* (Guardians of Order, 1999, \$19.95). This is from the same people who brought out *The Sailor Moon Role Playing Game and Resource Book*, my vote for the pleasantest surprise of the year. Like the *Sailor Moon* game, the *DTP* game is based on a Japanese cartoon or anime. The anime is based on a Japanese comic book or manga called simply *Dominion* by Masamune Shirow, best known in this country for his manga *Ghost in the Shell*, which was made into a movie of the same name. Shirow did two *Dominion* mangas, and each was turned into a direct to video anime series. The *DTP* game is based solely on the first of these anime series.

The future Japan depicted in *DTP* as well as the police department structure of the game's campaigns make for a much more traditional-gamer friendly experience than the one presented in *Sailor Moon*. Instead of playing high school girls in the modern day, players build characters who are policemen in a near future where a huge bacterial cloud cov-



ers the world. The characters are stationed in a Japanese city where a crime is committed every 37 seconds, and to fight this anarchy, the police have been issued high tech tanks. Guns, heavy weapons, cyborgs, mutants, combat choppers, and cool tanks abound.

Like all Guardians of Order games, *DTP* uses the Tri-stat system, but it gets some tweaking here. Because the men and women of the Tank Police are mostly skilled normals rather than the super-heroes more common to the system, the skills rules have been modified to allow characters of greater complexity to be built. Also, two new sections of rules have been added. One is for making tanks and other "mecha," the other is a list of personal gear like weapons and gadgets. The weapons list is fun and necessary; the mecha rules less so. All the vehicles and tanks from the anime come pre-figured in the book, so players only have to learn the design rules if they want their character to have a brand new sort of tank.

Coming back to this side of the Pacific, the last game is an American product, but its setting is truly global. The name of the game is *Immortals: Millennium Book 1* (Precedence Publishing, 1999, \$20), and it is actually a second edition of a game that has been around since before Precedence got rich making licensed collectable card games. The original *Immortals* was widely hailed as one of the most imaginative and original settings ever attempted in an RPG. Unfortunately, it was also considered one of the most user-hateful rulebooks ever published. 400 pages of dense background and rules, all of which were poorly arranged, poorly explained, and undindexed. The new edition still doesn't have an index, but everything else is much improved.

The most striking thing about *IMB1* is its cover photograph which is of actress and *Playboy* model, Claudia Christian, dressed up as one of the game's major NPCs. It is such a good cover, in fact, that one day the book went missing from my desk at my day job. This was the first time any of my gaming materials had gone walkabout. A couple hours later, one of my coworkers showed up with the book in hand. Returning it, he apologized for taking it without asking. "I thought it was a *Playboy* or something," he said. "Or something," I agreed.

The second thing to know about *IMB1* is that it is the first of four books that will be released over the coming year. The original plan was to do the second and fourth books as softcopies on CD ROM inserted in and sold with the paper and ink books one and three. Consumer protest nixed that idea. People still want books they can hold in their hands, not have to read off a computer, for when they are gaming, but the price is that half the information you were supposed to have when you read Book One is no longer there. To offset this a little, Precedence gave away a sixteen page free booklet that outlined the basic rules of *Immortals*.

So what is *IMB1* about? Well, in a terrific change from the first edition, the game's background is concisely summarized on page 13.

Even more briefly, the premise is that millions of years ago, an alien evil crashed into Earth. It shattered into shards, which infected various dinosaurs, creating a super-powered race of dragons. The dragons created slaves by infecting various things (animals, fish, even the elements themselves) with more shards. Eventually the slaves rebelled and drove the dragons off. The Slaves became the Immortals, the race that was and is the gods to human society. Immortals get their powers from the shards, but the shards have an agenda of their own. They want to gather themselves together and reconstitute the evil alien they once were. The Immortals want to stop them. This is the tension that drives the game.

Like *Feng Shui*, *Immortals* is a game of very high powered characters. And like *FS* those power levels are pretty compressed by the game's mechanics. *IMB1*'s dice mechanics are funkier though. Each stat and power is rated at a dice. Players want to roll low to succeed, so having four-sided dice in something is good and having twenty-sided dice is bad. A twelve-sided die is human average, a ten-sided is human superior and Immortal average. There are only three primary stats and then each character can buy skills and powers.

The skill system is interesting. Since Immortals are thousands of years old, it might reasonably be expected that they would have every skill at its highest level. They don't. The conceit in the game is that every now and then, Immortals have to go through a process where they suppress their memories and basically start over again. The new personalities that come out of "starting over" are called Avatars. The more Avatars a character has had, the more points it has to spend on skills. The downside of lots of Avatars, however, is that the old ones try to take back control of the character's consciousness from the current one. The more Avatars a character has, the more likely he is to be disabled by his own memories.

There are two flaws with *IMB1* which may or may not bother you. First is the core rules being spread over four books. If you are used to having all the rules in one place, this may annoy you. The other flaw is one shared by all games with unconventional, unlicensed backgrounds. If you pick up *Dominion Tank Police*, you have probably seen the series and are excited by some of the stories likely to be told with that game. The Science Fiction police archetype is probably already in your mind. With *IMB1*, the game may well be your imagination's first encounter with the idea of playing a thousands of year-old, super-powered, god who can transform into fire. Exciting story ideas may not leap immediately to your mind. It is a harder sell to get people interested in a "new" background.

Immortals: Millennium is a much better version of the original *Immortals* game. It is set in a different world and is played by different characters. And this is only the start. Things are likely to be very different by the time all three books are out, but Book 1 is the place to start. □

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A History of the Human and Post-Human Species

A View from Evolutionary Ecology

By Geoffrey
A. Landis

In the 21st century (as old-style humans counted the ages of the world) the intense pressure of evolutionary forces began to splinter the human race into subspecies.

First among these splinters was the set of humans who had control over technology. They had, by any older reckoning, nearly infinite power. We can call them potentates, for the potency of the tools they had at their whim. They were, for the most part, humans hooked into computers, with all of human technology available at their electronic fingertips.

The first law of ecology is that species radiate to fill all available niches, and technology was an available niche.

Most of the human race were not potentates, of course. The majority were ordinary people, living

*After
a few
hundred
million
years,
perhaps
we'll begin
to discover
what it
means to
be human.*

Illustration by
Patrick Arrasmith

and working at meaningless jobs, struggling to eat and mate and raise a family and die in relative comfort.

The potentates were different. Hooked up to computers, nearly infinitely wealthy, they were for the most part antisocial—the computer hookups acted as a societal force that selected humans with

Engineered plagues killed large portions of the world population.

low requirements for interpersonal ties. By a century, massively parallel computational power was subsumed into biocomputational chips that were then refined until they were engineered directly into the genetics of those who could control the technology, and the potentates had become isolated from the old-style humans.

For the most part, the potentates were benevolent—or at least, indifferent—toward the humans of whom they were the unknown masters. But not all. A few of them viewed the ordinary humans as disease. Engineered plagues, released by fringe elements, killed large portions of the world population. The less-fringe potentates engineered antiplague viruses to kill the engineered plagues, but each episode reduced the number of ordinary humans—and put pressure on them to adapt.

Huge numbers of the potentates simply immersed themselves into virtual realities, and by failing to breed, left the realm of ecology. Why do you need a real world when the virtual worlds are infinite in complexity, each deliberately designed for allure? Genetic diversity decreased as most potentates didn't breed—but the ones that did breed produced dozens, in a few cases even thousands, of children.

New species adapted to fit into the human ecologies. (The first law of ecology again: adaptive radiation of species into available niches.) Molds, fungi, diseases, and cockroaches all adapted to fit into the human sphere, and humans learned to live with them. In a house, every clear surface became covered with a fine, downy coating of mold, and after a while, humans adopted a mindset that this is right and natural—a surface bare of mold would be like a lawn bare of vegetation. (The second law: Species co-evolve to live together.)

Spaceflight was an obsession of a few of the potentates, and this led to a second radiation, this one purposeful. It was named the exodus. Ecologies were adapted for the Moon, for Mars.

The ecologies for the Moon were life forms made of mostly silicon-based materials: silicon gels for flesh, silicon carbide bones, low-vapor-pressure fluorinated silicone oils instead of blood. Carbon was the limiting resource of the basic raw materials (silicones require carbon), and so mining life forms were engineered to sieve carbon out of the low concentrations of the regolith, along with trace phosphorus, fluorine, and hydrogen. Call them photovoltaic trees, with roots that snaked down hundreds of meters into the lunar regolith, seeking the microscopic traces of carbonaceous chondritic material. The lunar life used DNA, but in a highly encapsulated form, redesigned to bond not to water molecules but to hydrogen bonds of engineered fluorinated silicones. The life simply froze solid during the 158-hour lunar nights, since energy storage turned out to be evolutionarily too expensive.

The Mars ecologies were more conventional, but still highly engineered. Even the definition of the word “biological” had to be somewhat stretched—is something alive if it has no biological precursors? If its DNA has been put together, base by base, by machines, and not inherited from ancestors?

Over the millennia, the life on the Moon and Mars devolved. The potentates had envisioned an ultimate stage where humans would fill the top predator role in their engineered ecology, but their plans never quite worked. The engineered ecology was not complex enough to support such a niche, and the human-equivalent sophonts (not by any stretch of biological definition could they actually be called human) failed to reproduce their numbers, and eventually simply died away. New species eventually adapted (that first law again) and radiated into all niches.

On the Earth, meanwhile, the nonhuman ecology crashed. Too many species had been wiped out, deliberately or as a side effect of other human activities, for the ecology to sustain itself. (The third law of ecology: The stability of an ecosystem is proportional to its species' diversity.) This was a natural catastrophe: Ecology is a science of chaos, and ecological crashes happen every few tens of millions of years, give or take, with or without humans. It was hard, however, on those humans who were not potentates.

Over the course of about a millennium, humanity began further speciation. Other than the potentates, the remainder of humanity adapted into new forms that the potentates termed “hrats,” humans that had adapted to the plagues and unsuccessful extermination attempts of the potentates. As yet the potentates and the hrats were still technically subspecies—they were still mutually fertile, when they chose to interbreed—but there was less and less cross-breeding occurring as the ecological niches of the hrats and the potentates diverged.

The potentates evolved slowly to be larger in size—they were the top of the food chain, and there was no evolutionary pressure toward smaller size. The various human rat subspecies, on the other hand, evolved to be smaller—there was a tremendous pressure to use fewer resources, to be faster, more agile, more adaptable.

Over the course of a hundred millennia, the potentates evolved. Intelligence was no longer a selection force. The potentates had genetically engineered into their biological structure most of the technology that had put them at the top of the food chain, fiber-optic receptors for direct high-bandwidth computer links, and microwave transceivers for low-bandwidth communications. What, exactly, did they need intelligence for? (The fourth law of ecology: Attributes not required by a species for survival will be lost.) Fat and happy (they engineered themselves to be happy) and with a low reproduction rate—at the top of their food chain with no natural enemies, they had to have a low reproduction rate, or they would kill their own ecology—they became, in all essential respects, dinosaurs. Huge and invulnerable, over the course of a quarter of a million years they lost the desire and the need to control the Earth.

The humans that the potentates had once denigrated as “hrats” live in a species-depleted, struggling ecology. The great ecological

Why do you need a real world when the virtual worlds are infinite in complexity?

crash had resulted in a die-off, and the hrats lived in an ecology where survival of large animals was a difficulty. No global transportation systems—or at least none accessible to hrats—were left functional, so the hrats speciated, evolving separate forms on different continents and in different climatic zones on each continent. Like the potentates, the hrats also evolved away from intelligence—

in the struggle for survival, traits that required a prolonged infancy and adolescence were too hard to maintain.

By a million years, there were no truly intelligent species on Earth.

Which is not to say that *genus homo* was extinct, far from it! With the extinction in the crash of all the species of large mammals (with the exception of dogs, preserved by the potentates), species of *homo* radiated to fill all of the open evolutionary niches. As the ecology recovered complexity, much of the diversity came from hominid species, now adapted to fill niches from grazers—hominid deer—to omnivores—hominid apes and pigs—and even some carnivore slots, hominid bears and jackals competing with the canine descendants to prey on squirrels and hominid deer.

In many ways it was a beautiful and placid world: a new Eden.

One of the casualties of the great die-off was the extinction of a species of oceanic algae that had served a thermostatic function in the Earth's overall heat balance by removing carbon dioxide from the atmosphere. The die-off of the oceanic algae and of a vast number of terrestrial plant species led to a buildup of atmospheric carbon dioxide and consequent warming of the Antarctic continent. The Earth settled into a second thermal equilibrium, a full interglacial period with no permanent ice features anywhere on the globe.

But climate eventually changes. A thousand-year period of unusually low volcanism stimulated a new algae to fit into a niche. This algae thrived in waters of low temperature and low carbon-dioxide saturation, and, in the mindless way of single-celled organisms, went about producing these conditions. The resultant reduction in greenhouse effect warming triggered glaciation, at first only minor glaciation, but then increasing spread of ice north across the warm valleys of Antarctica.

This glaciation resulted in a period of chaotic changes in the ecosystem, which opened a niche for intelligence to out-compete nonintelligent species. Following ancient laws of Darwin, intelligence arose in the savannas of Antarctica. (The fifth law of ecology: Evolution always occurs at the margin of an ecosystem.)

The new sophonts spread quickly from the Antarctic savanna to the northern arctic regions, and then in only a few millennia across the globe. Their first excursion into technology had been to discover the Antarctic coal deposits, one of the few fossil fuel sources on the planet remaining in easily recoverable form. From there they developed a technology of ceramics and biopolymers that regarded metal as a pretty, but technologically unimportant, form of rock.

They quickly learned not to hunt the enormous and placid potentate beasts; while the beasts were not intelligent in any real sense, they were nevertheless still networked by microwave links (the new sophonts never did learn about microwaves), and an event experienced by any one of them was shared by all of the others, and never forgotten. With no visible weapons, no claws, no tusks, nevertheless the potentate beasts wielded invisible weapons, and a herd of potentates, acting together as a phased array of microwave beams, could melt cities. Leave them alone, the sophonts found, and they will leave you alone.

The sophonts never had the ambiguous benefit of believing that they had been the only intelligent race on Earth; even a million years after the last cities of *homo sapiens* had collapsed into rubble, they lived in a world of abundant and incomprehensible artifacts, and it was clear that they had lived in a world that once had been inhabited by a world-treading race that had leveled mountains and built tremendous cities.

For the most part, the artifacts they found had little meaning. Cities they understood, but having never discovered electricity, the remnants of printed circuit boards were meaningless, and while buried fiber-optic cables were obviously a technology for piping light, the purpose for doing so was obscure. But with their own technology that owed little or nothing to *homo sapiens*, they developed factories and eventually spaceflight. The enormous space artifacts of the era

of the potentates, pinwheels and staging stations, had long since decayed from orbit. The geosynchronous-orbit communications satellites remained as curiosities to be retrieved and puzzled over, but never understood.

They never traveled as far as the Moon, and with no knowledge of radio and no requirements for communications satellites, their era of spaceflight was a brief one. There would have been nothing to find of any interest on the Moon in any case; the lunar ecosystem had

By a million years, there were no truly intelligent species on Earth.

died back to a sparse ecology consisting of little more than the great photovoltaic trees, two species of mold, and a few dozen species of small mobile life that filled the niche of crawling insects.

Over the course of a hundred thousand years, their civilization grew stagnant and died, and less than a half-million years later, the Earth had no trace of them except for a heritage of cryptic ceramic artifacts, sharing the ground with the artifacts of *homo sapiens*.

Over the next 20 million years, two more species that could arguably be called intelligent arose. Neither achieved spaceflight. Although the second of the two species lasted for a period of five million years, eventually they succeeded in adjusting the world to suit them, and reached the point where they no longer had a need for intelligence.

The planet Mars has no magnetic field and is therefore subject to a withering bullet-storm of solar and galactic cosmic radiation. In designing forms of life to survive on Mars, the potentates had engineered a more robust form of DNA, with quintuply redundant information storage, with error-correction coding at every stage of reproduction and cell growth. It had not been

their actual intent to design an ecology to be immune from evolution, but that had been the result.

Nevertheless, eventually error-correction codes fail. The quintuply redundant information storage corrupted to merely quadruple redundancy, and then slightly faster corrupted down to triple, and faster yet to double, and single redundant. In 50 million years, evolution started up on Mars.

It took well over a hundred million years before the Mars life evolved to intelligence, and from there only a few millennia before they invented spaceships. They had, of course, no notion of their terrestrial roots.

The sixth law of ecology tells us that when isolated populations are brought into contact, the more robust forms quickly drive out the less robust. In this case, the harsh conditions on Mars had made the Martian life forms highly robust. The Earth life forms, really, didn't have a chance. The contact with Mars was a K-T level event, and, like the end of the Tertiary period, it resulted in rapid evolutionary radiation in all directions. And then history gets seriously weird.

But this is a history of the various human species, and so the history of what happened after the return of the Martians must be beyond the bounds of this story. □

—for Olaf Stapledon

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INTERNET

By Cory Doctorow

THIS MARKS THE FOURTH ANNIVERSARY of this column. Remember, full archives of previously reviewed sites are available at <http://www.craphound.com/nonfic/listing.html>, and you can always suggest sites by e-mailing me at doctorow@craphound.com.

In July, 1996, I wrote to tell you about the ad-hoc *Hitchhiker's Guide to the Internet* project. I'm amazed that it's taken three years for Douglas Adams to launch an official version, at <http://www.h2g2.com>. The *Hitchhiker's Guide to the Galaxy* project solicits the input of tens of thousands of Internet-based reporters (i.e. you) to compile an eclectic reference work covering every subject under (and over) the sun. The site is beautifully implemented, with dynamically generated custom pages that are written in a subset of XML invented specifically for the project. This has the potential to become the Great Work of the Internet.

Science@NASA is another brilliant reference site, but one with a more serious bent. This public-relations effort from NASA is a



space-enthusiast's dream, jammed with informative, timely news about the space program, written in lay terms. The site is at <http://science.msfc.nasa.gov/>, and includes a subsite at <http://www.hubbleconstant.com>, that specifically reports on Hubble-related news. In an era of bloated, graphics-intensive Web sites, Science@NASA is a refreshingly info-centric, eminently navigable Web project.

NASA's web presence is multifarious and often whimsical, as is demonstrated in the *NASA Robot of the Week* site, at http://ranier.hq.nasa.gov/telerobotics_page/coolrobots.html. NASA robotics experts bestow this weekly honor on lucky base-ment engineers around the world, recognizing their achievements in the field of amateur robotics.

If you don't have the technological savvy to build your own robot, you may want to pick up an Aibo, Sony's chihuahua-sized robot-dog-cum-home-entertainment-center. Aibo, whose homepage is at <http://www.world.sony.com/robot/get/meet.html>, learns, feels, and develops instincts that let it clean

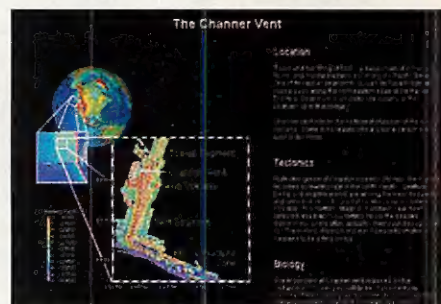
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Peter Watts, author of the Tor book *Starfish*, is a talented marine biologist with a knack for writing hard-science thrillers that explore the creepy fringes of accepted research. His site, at <http://www.globalserve.net/~pwatts/>, is a lavishly designed site that explores the science behind his stories.

The roots of Science Fiction are difficult to pin down. At various times, SF claims as its own Mary Shelley, HG Wells, and even Gilgamesh. 1800 to 1919 was a period rife with "Science Romances," "Weird Tales," and "Tales of the Fantastic." These materials are now largely in the public domain, and an ad-hoc group centered in Alberta, Canada, have put together *GASLIGHT*, a site devoted to the dissemination and discussion of the original texts, at <http://www.mtroyal.ab.ca/programs/arts/english/gaslight/>

By now, everybody knows that a feature-length adaptation of *Lord of the Rings* is underway. The production team have put up a very thin site at <http://www.lordoftherings.net> (funnily enough, someone else beat them to registering lordoftherings.com), which, aside from some nice concept art, is basically a vacuous exercise in corporate dullness. For the real dirt on the Tolkein movies, visit <http://ringbearer.org>. Joram Peter Manka's wonderful fan site chock-a-block with art, production notes, articles, interviews and speculation.

Delta Green is a fine role-playing game from Pagan Press that marries Lovecraft's



Cthulu mythos with Area-51/X-Files paranoia. Their site, at <http://www.delta-green.com>, is just right: a blend of in-house content that extends gameplay and material supplied by dedicated gamers that ensures that you'll never run out of ideas.

This movie's got everything going for it: Fabulous anime source material, award winning direction, wonderful celebrity voices, and a screenplay by Neil Gaiman: It's *Princess Mononoke*, coming from Miramax (whose site frankly stinks). The *Team Ghibli* fan site at <http://www.nausicaa.net/%7Emiyazaki/ml/> more than makes up for it, with minutiae galore. □

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